Graduate Catalog, 2017-2018

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About UCF

Overview

The University of Central Florida has come a long way since its inception in 1963. It is now a thriving, multi-campus university, with more than 64,000 students and nearly 200 graduate degree programs. In addition to its physical growth, UCF has become a prominent player in graduate education nationwide, offering innovative corporate partnerships, world-renowned faculty, and cutting-edge research. "About UCF" describes the University and its mission. In addition, this section describes the people and offices that make up UCFincluding university, college, and school administration.

Mission Statement

The University of Central Florida is a public, multi-campus, metropolitan research university, dedicated to serving its surrounding communities with their diverse and expanding populations, technological corridors, and international partners. The mission of the university is to offer high-quality undergraduate and graduate education, student development, and continuing education; to conduct research and creative activities; and to provide services that enhance the intellectual, cultural, environmental, and economic development of the metropolitan region, address national and international issues in key areas, establish UCF as a major presence, and contribute to the global community.

UCF offers undergraduate education rooted in the arts and sciences, providing a broad liberal education while developing competence in fields of special interest. Unique aspects of UCF's approach are its commitment to educate students for a world in which cooperation is as important as competition; in which societal and environmental impacts of new developments are as important as their technical merits; and in which technology, the arts, sciences, humanities, and commerce work together to shape the future.

The complexity of modern society requires comprehensive graduate and professional programs. UCF provides advanced education that matches institutional strengths with evolving regional, state, national, and international needs. It supports these advanced programs by recruiting excellent students, faculty, and staff and by supplying the infrastructure that enables these programs to achieve national prominence.

Basic and applied research, as well as creative activity, are integral parts of a quality education. UCF faculty members are scholar-teachers. As such, they create new knowledge, new points of view, and new means of expression in a broad range of academic, professional, and socially significant areas. Their creativity fosters innovation as they convey their results, methods, values, and expressions to students, colleagues, and the public.

UCF works actively to build partnerships that promote development of central Florida's economy through carefully targeted programs of graduate study and research. The I-4 High-Technology Corridor Council, whose goal is to attract, retain, and expand high technology investment and jobs, is but the latest example of UCF's collaboration with partners from industry, state and local government, and higher education.

Service to its community is an important extension of the metropolitan mission of the university. Public service is prominent at UCF, and the university develops partnerships with the community to enrich the educational, artistic, cultural, economic, and professional lives of those it serves in central Florida and beyond.

Education is more than classroom experience. UCF students are involved in cooperative research and participate in artistic, social, cultural, political, and athletic activities. UCF provides academic diversity by bringing to its campus national and international leaders who expose students and the community to a wide range of views and issues. UCF achieves cultural diversity by using its multi-campus facilities to serve a diverse population of traditional and nontraditional students from various races, cultures, and nationalities.

UCF is committed to the free expression of ideas, the equality of all people, and the dignity of the individual.

UCF Story

Graduate Education that Creates Opportunities

The University of Central Florida is one of the largest pre-eminent research universities in the country. Located in Orlando, one of the most dynamic metropolitan areas in the United States, UCF benefits from a diverse faculty and staff who create a welcoming environment. UCF is a university that creates and provides opportunities for students to grow, learn, and succeed.

As central Florida's higher-education partner, UCF plays a major role in the region's fast-paced growth through its community and corporate partnerships, its research programs, and the talents of its more than 230,000 alumni, over 64,000 students, and 12,000 faculty and staff. As a metropolitan research university, UCF is committed to innovative community partnerships, world-class research with local impact, and the integration of technology and learning.

Centers of Excellence

UCF's colleges include Arts and Humanities, Sciences, Business Administration, Education and Human Performance, Engineering and Computer Science, Graduate Studies, Health and Public Affairs, Hospitality Management, Medicine, Nursing, and Optics and Photonics.

The university's internationally renowned colleges, centers and institutes include the College of Optics and Photonics/CREOL (Center for Research and Education in Optics and Lasers), the Rosen College of Hospitality Management, the Advanced Materials Processing and Analysis Center (AMPAC), the Biomolecular Science Center, the Institute for Simulation and Training (IST), the Florida Solar Energy Center (FSEC), the NanoScience Technology Center, the National Center for Forensic Science, the Florida Space Institute, and the Florida Photonics Center of Excellence. For additional information regarding these centers and institutes and other research programs, visit www.research.ucf.edu/centers.html.

Pride in Accomplishments

The reputation of any educational institution is best reflected in the accomplishments of its students, faculty, and alumniand for a university that's now more than 50 years old, UCF has moved rapidly from promise to academic prominence.

Campus Accomplishments

- Once again, UCF ranked among *U.S. News & World Report's* 100 Top Public Schools (2017).
- UCF continues to rank among the top 50 Best Values in Public Colleges in the United States according to *Kiplinger* (2017).
- UCF faculty ranked 19th in the nation among public universities for the number of U.S. patents they secured and 40th in the world, according to the National Academy of Inventors.
- UCF and the U.S. Fish & Wildlife Service reached a historic agreement establishing a permanent research facility in the Archie Carr National Wildlife Refuge on the beaches of Brevard County, one of the most important sea turtle nesting beaches in the Western Hemisphere.
- In September 2016, the Florida Board of Governors officially recognized UCF as an Emerging Preeminent Research University, putting it on the path to attain equal footing with the states two Preeminent Research Universities, the University of Florida and Florida State University. The designation came with an additional $5 million in funding to further enhance quality.

Notable Programs and Awards

- Twenty-two UCF graduate programs were ranked in the top 100 in their respective fields by *U.S. News & World Reports Best Graduate Schools of 2018*. Among these are Counselor Education, Industrial Engineering, Electrical Engineering, Computer Engineering, Mechanical Engineering, Materials Engineering, Environmental Engineering, Civil Engineering, Nursing MS, and Nursing DNP.
- UCFs Florida Interactive Entertainment Academy was named the No. 1 graduate-level video game design school in North America by The Princeton Review. Graduates are working at more than 130 companies around the world, including Google, Disney, Microsoft, Nintendo and Industrial Light & Magic. The program celebrated its 10-year anniversary this past fall.
- Once again, UCF's online graduate Criminal Justice program ranked among the top 50 in *U.S. News &*

World Report's Best Online Program Rankings (2017).

- For the second year in a row, a survey by Aviation Week magazine, the top aviation-industry publication in the country, found that UCF produces more engineering graduates who get jobs in aerospace and defense companies than any other university in the nation.
- In November 2016, the UCF College of Medicine celebrated its 10th anniversary and began the process of starting a teaching hospital. UCF has partnered with Hospital Corporation of America to build the new hospital alongside the medical school in Lake Nona.
- The Institute for Simulation & Training received a $2 million award from oilfield services company Schlumberger to analyze downhole tool operations and develop targeted learning and training programs.

Notable Research

- College of Medicine scientist Dr. Annette Khaleds lab has discovered a way to kill spreading breast cancer cells and her new technology has generated a licensing agreement that will accelerate the therapys path to clinical trials.
- The Defense Advanced Research Projects Agency has awarded a $1.3 million grant to a team led by UCF researcher Debashis Chanda, PhD to fund the development of a next-generation infrared detector that could be used in fields as varied as night vision, meteorology and space exploration.
- Nazim Muradov, PhD of UCFs Florida Solar Energy Center was named a Fellow of the National Academy of Inventors for his contributions to the field of clean alternative fuels. Dr. Muradov also received NASAs Commercial Invention of the Year Award for his role in developing an innovative tape that can be used to detect hydrogen leaks.
- A team of scientists from UCFs NanoScience Technology Center has developed a new process for creating flexible supercapacitors that could eventually revolutionize technology as varied as mobile phones and electric vehicles.
- Nanotechnology PSM student John Bittman was one of only six students in the state of Florida - anbd the only UCF student - to receive the Presidential Management Fellowship which will enable him to apply for federal positions in such agencies as the FBI, NASA, Centers for Disease Control, and the U.S. Secret Service, among others.

Degrees of Distinction

With 1,626 full-time faculty, the university offers 92 bachelor's degrees, 86 master's and MFA degrees, three specialist degrees, and 31 doctoral degrees as well as 78 graduate certificate programs and the Doctor of Medicine program.

The list of prominent alumni gets longer with each graduation ceremony. A sampler of notable alumni includes Kevin Beary, former Sheriff, Orange County, Florida; Juanita Black, president, Mental Health Association of Central Florida; Jim Atchison, President and CEO, SeaWorld Parks and Entertainment; John C. Bersia, Pulitzer Prize-winning writer; Phil Dalhausser, Olympic Gold Medalist, volleyball; Ericka Dunlap, Miss America 2004; Cheryl Hines, actress; R. Glenn Hubbard, former chair, U.S. Council of Economic Advisors; George Kalogridis, president, Walt Disney World Resort; Mark Miller, country music singer/songwriter, Sawyer Brown band; William W. Parsons, Jr., Director, NASA's John C. Stennis Space Center; Angel Ruiz, president and CEO, Ericsson North America; Nicole Stott, space shuttle astronaut; Daniel Tosh, standup comedian/television host; and Al Weiss, President of Worldwide Operations, Walt Disney Parks and Resorts.

International Impact

UCF's growing cadre of international students adds both diversity and global connections to its central Florida community. More than 130 countriesmost notably India, China, Canada, Vietnam, Jamaica, United Kingdom, and Colombiaare represented in the student body, and faculty research is taking place in areas ranging from South America to the Arctic polar ice cap.

UCF has study and research agreements with 98 institutions in 36 countriesproviding learning and research opportunities for students and faculty in countries ranging from the Udmurt Republic to South Africa. The university's Eastern Europe Linkage Institute alone maintains educational and research partnerships with 20 institutions in nine countries, including Russia, Ukraine, Slovakia, the Czech Republic, Bulgaria, Lithuania, Romania, Poland, and the United States. The student experience abroad does not stop in the classroom with opportunities available for students to travel internationally.

Strength in Diversity and Inclusiveness

Increasing diversity and inclusiveness is one of the central goals of UCF. The university is particularly proud of an aggressive minority recruitment plan, and minorities now account for nearly 20 percent of the faculty.

The student community includes Hispanic/Latino (15%), African-American (10%), and Asian/Pacific Islander (11%) students and represents 64 of Florida's 67 counties, all 50 states, and 145 countries.

Partnerships and Community Service

One of UCF's main objectives is to be America's partnership university. Hundreds of joint projects are in place with community organizations and government agencies at all levels and corporationsranging from collaborative research in nanoscience to neighborhood nursing clinics.

Two major partnerships target the region's most prominent business sectors. The Rosen College of Hospitality Management will increase the university's already significant commitment to the area's tourism and hospitality sector. High-tech interests are being well-served by the Florida High Tech Corridor partnershipan initiative of UCF, University of South Florida and the University of Florida that now involves more than 25 local and regional economic development organizations, 14 community colleges and thousands of companies.

Orlando and Beyond

In addition to its 1,415-acre main campus in Orlando, UCF has area campuses in Daytona Beach, Cocoa, and Clermont; centers in Deland, Palm Bay, Melbourne, Kennedy Space Center, Downtown Orlando, South Orlando, Kirkman Road, and Lake Mary; and instructional sites in Deltona, Flagler, New Smyrna, Osceola, Celebration, Leesburg, Chiefland, Lecanto, and Sumterville giving students throughout central Florida the chance to take classes, pursue degrees, and interact with faculty and staff.

Pardon Our Dust

- The Florida Board of Governors approved UCFs plans to build a new campus in downtown Orlando. The new campus will open with 7,700 students in 2019.
- An Interdisciplinary Research and Incubator building is under construction near Engineering II. This facility will be utilized by researchers from various UCF colleges and centers, including physics, chemistry, biology, materials characterization, optics and photonics, nanoscience and more.
- A new 3,200-square-foot building located next to the Recreation and Wellness Center will house a Pollo Tropical restaurant as well as another Caf頂ustello location. This building is targeted for LEED Silver certification, a measure of the sustainable features in its construction and operation.
- Garage C is expanding to include an additional 604 parking spaces.
- Libra Drive was widened from two to four lanes between Research Parkway and Gemini Boulevard.

Virtual Campus

UCF's virtual campus UCF Online is leading the way in the integration of technology, teaching, and learning. Twenty-five graduate degrees and 30 certificate programs are available online, in addition to many individual graduate-level courses. Essential student services, such as parking, course registration, and textbook purchases are also available online.

For more information on UCF's online programs, visit www.ucf.edu/online.

UCF Athletics

For the third consecutive year, UCF student athletes are graduating at a higher rate than any other NCAA Division I Football Bowl Subdivision public institution in the nation. UCF has an overall success rate of 93 percent - nine points above the national average of 84, according to the NCAA.

UCF Knights football competed in the 2016 Cure Bowl, raising $1.15 million for breast cancer research, including $250,000 for the research being conducted at UCF College of Medicine by Dr. Annette Khaled to stop metestatic cancer cells.

Both UCF men's and women's basketball teams competed in the National Invitational Tournament in March.

Central FloridaA great place to be

UCF is located 13 miles east of downtown Orlando, 45 miles from the Atlantic Ocean and Cape Canaveral, and 100 miles from Tampa and the Gulf of Mexico. The area boasts world-class shopping and dining, amusement parks, lakes, golf courses, jogging and biking trails, and nature preserves.

UCFA Time of Opportunity

The time is now for UCFone of the fastest growing, metropolitan research universities in the country and a catalyst for economic development in central Florida. Significant in size, excellent in academics, and prominent in accomplishments, the University of Central Florida is one of Florida's leading educational assets.

The University's culture of opportunity is driven by the diverse people it attracts, its Orlando location, its history of entrepreneurship, and its youth, relevance and energy.

Facts

About the University

- **Status:** One of 12 of Florida's public universities
- **Location:** In metropolitan Orlando area, 13 miles east of downtown Orlando
- **Carnegie Classification:** Comprehensive Doctoral; Research Universities - Very High Research Activity
- **Number of Graduate Programs:** 31 Doctoral, 83 Master's, 78 Graduate Certificates, 3 Specialist Programs, and 1 Professional Program (Medicine)
- **Overall Student Enrollment in Fall 2016:** 64,318
- **Graduate Enrollment in Fall 2016:** 8,066, including 1,878 doctoral, 5,448 master's, 378 certificate, 61 specialist, and 301 nondegree-seeking students
- **Class Offerings:** Courses offered in Arts and Humanities, Business Administration, Education and Human Performance, Engineering and Computer Science, Graduate Studies, Health and Public Affairs, Hospitality Management, Medicine, Nursing, Optics and Photonics, and Sciences are offered at night, online and at UCF's regional campuses.

About UCF Graduate Students

- **Graduate Student Characteristics, Spring 2016**
  - Doctoral - 55 percent full-time students, 45 percent part-time students
  - Master's - 40 percent full-time students, 60 percent part-time students
  - Gender - 58 percent female, 42 percent male
- **Average Age of Graduate Students. Spring 2016:** 32 years old
- **Ethnicity of Graduate Student Population, Spring 2016**
  - White, Non-Hispanic - 54.77 percent
  - African American, Non-Hispanic - 10.32 percent
  - American Indian or Alaskan Native - Less than 1 percent

- Asian - 11.39 percent
- Hispanic/Latino - 15.04 percent
- Native Hawaiian/Other Pacific Islander - Less than 1 percent
- Multi-racial - 1.78 percent
- Not specified - 6.51 percent

Financial Support for Graduate Students

- Assistantships - Each year over 1,500 graduate students are awarded graduate assistantships that provide financial support for their graduate education.
- Fellowships - Over 2 million dollars in support was awarded to doctoral and master's students.
- Tuition Remission - University fellows and graduate students appointed on full-time assistantships (20 hours per week) receive full resident (in-state) tuition remission. Students appointed on half-time assistantship appointments (10 hours per week) receive remission of one-half of the resident (in-state) tuition. All nonresident university fellow and graduate assistants with appointments totaling 20 hours per week are charged a "differential out-of-state fee" of $0.00.
- Health Insurance - The College of Graduate Studies provides health insurance coverage for all university fellows and graduate assistants with appointments totaling 20 hours per week.

Research Activities 2016

Academic research fuels the innovation economy and UCF is an integral part of statewide efforts to attract, retain and grow high technology companies in Florida. UCFs programs in engineering, optics and photonics, and simulation and training, biomedical science, computer science and nanoscience are among the best in the nation. In 2016 UCF researchers received $145.8 million in contracts and grants, the largest percentage of funds coming from the federal government, which has a vested interest in advancing knowledge and fueling America's innovation pipeline.

Research faculty are the strength behind the development of new technologies. UCFs incubation and entrepreneurship programs help turn those technologies into companies. UCF's incubation and entrepreneurship programs help turn those technologies into companies.

- Total Research Awards - $145.8 million
- Total Federal Awards - $84 million
- Total State Awards - $14.25 million
- Total Industry Awards - $47.25 million
- Patents - UCF holds more than 925 U.S. patents

UCF Centers and Institutes Research

- Advanced Materials Processing and Analysis Center (AMPAC) - $1.24 million
- Florida Solar Energy Center (FSEC) - $6.27 million
- Institute for Simulation and Training (IST) - $18.32 million
- Florida Space Institute - $13.39 million

College Research

- Education - $5.66 million
- Engineering and Computer Science - $32.18 million
- Health and Public Affairs - $7.72 million
- Medicine - $9.03 million
- Optics and Photonics (CREOL) - $17.09 million
- Sciences - $13.81 million

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College of Graduate Studies

Overview

The College of Graduate Studies provides leadership and vision for graduate education at the University of Central Florida. Program quality, graduate admissions, recruiting, enrollment management, student services and records, financial support, policies, appeals, program development and review, benchmarking, and completion of graduate degrees are important concerns of the College.

Working in conjunction with the Faculty Senate Committees and the college and graduate program coordinators, the College of Graduate Studies is responsible for developing university-wide graduate plans and policies, coordinating graduate activities, distributing tuition support and fellowships to the colleges, facilitating the adoption of new graduate programs, coordinating the recruitment of graduate applicants, and admitting graduate students to the university. Students apply to the university through the Office of Graduate Admissions. Admission decisions are made by the graduate program directors and the College of Graduate Studies.

The College of Graduate Studies houses several **interdisciplinary graduate programs**: Geographic Information Systems Graduate Certificate; Interdisciplinary Studies MA and MS; Modeling and Simulation PhD, MS and Graduate Certificate; and Nanotechnology MS and PSM.

Mission Statement

The UCF College of Graduate Studies provides leadership and services to create high-quality learning environments for graduate students.

About Our Mission

The UCF College of Graduate Studies is an advocate for graduate education, working to mobilize and manage the resources needed for enrollment and program growth. We track and analyze emerging trends and changes in graduate education, both nationally and with our peer institutions, and provide support and guidance for interdisciplinary and cooperative programs. We are mindful of the need to retain the academic values of the graduate programs while acting as a partner in the social and economic well-being of the community and state.

We collaborate with the faculty to develop policies and best practices that further the high academic standards and excellence of our graduate programs. We provide information and services that students need to enhance their experience with UCF and that faculty and staff need to effectively carry out their responsibilities to students. Cooperation with colleges, graduate programs, institutes and centers, administrative offices, and support services is emphasized to provide an excellent experience for our graduate students from inquiry to graduation.

Through its primary activities, programs and services, the UCF College of Graduate Studies contributes to program development and growth, enrollment management and recruiting, enhanced infrastructure and technological support for our graduate students and programs, and quality student support services for a diverse and talented graduate student population.

College of Graduate Studies leadership

Vice President for Research and Dean of the College of Graduate Studies	Elizabeth Klonoff
Senior Associate Dean	John Weishampel
Associate Dean	Devon Jensen
Assistant Dean	Tracy Jones
Assistant Dean	Jennifer Parham

Graduate Council

The Graduate Council is a standing committee of the Faculty Senate and reports to the Senate on graduate policy and curriculum matters. The Graduate Council deals with policy issues and standards for the university. New graduate program requests, changes to existing graduate programs, additions, deletions and modifications to graduate courses, and new policies or changes to existing graduate policies are initiated and reviewed by the Graduate Council. New graduate degree programs require final approval by the Board of Trustees, and approval for doctoral programs is required from the Florida Board of Governors. The Graduate Council has four committees that examine and formulate policies and procedures, hear petitions for variances from graduate program or university requirements, review new graduate program requests, review changes to existing graduate programs, additions, deletions and modifications to graduate courses, and provide input on graduate program reviews, among other matters. For specific duties and membership requirements of the committees and the Council please see Section VII of the Faculty Constitution at http://www.facultysenate.ucf.edu/constitution/index.asp.

College Graduate Coordinators

College graduate coordinators are appointed by the respective college deans (or Directors of Schools with graduate academic programs) to work with the College of Graduate Studies. The primary responsibilities of the college graduate coordinators are to identify academic opportunities for graduate education in their colleges, plan for enrollment growth and the use of resources in the graduate programs, communicate the college vision of graduate education to faculty, staff, students, and the university, coordinate and represent college graduate concerns to others, conduct studies that ensure program quality and standards in the college and report this information to the university, assist with program reviews, and prepare an annual report to the College of Graduate Studies on college graduate activities.

- College of Arts and Humanities
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- College of Business Administration
  Dr. Taylor Ellis
- College of Education
  Dr. Jesse P. Mendez
- College of Engineering and Computer Science
  Dr. Mostafa Bassiouni
- College of Health and Public Affairs
  Dr. Ross Wolf
- College of Medicine
  Dr. Saleh Naser and Dr. Steve Ebert
- College of Nursing
  Dr. Susan Chase
- Rosen College of Hospitality Management
  Dr. Alan Fyall
- College of Optics and Photonics
  Dr. David Hagan
- College of Sciences
  Dr. Jana Jasinski
- Modeling and Simulation
  Dr. Joseph LaViola, Jr.

Graduate Program Directors

The graduate program directors are appointed by the respective department Chairs (or Directors of other units with graduate academic programs) to work with the college and university personnel on behalf of graduate education. Under the direction of the department chair, they are responsible for the graduate programs health and quality. They oversee the recruiting of graduate students and respond to inquiries; provide for student services such as mentoring, career development opportunities, and student orientations; plan for office space for graduate assistants; inform students and faculty of student completion rates; inform students and faculty of financial support available to graduate assistants; and ensure program standards in their department. Graduate program directors are the main contacts for each of the graduate programs.

Graduate Faculty and Graduate Faculty Scholars

University-Wide Qualifications for Participation in Graduate Education

Graduate education requires the participation of highly competent faculty who are willing to share their specialized skills and knowledge with graduate students. Graduate faculty teach graduate courses, serve as members of thesis and dissertation committees, and serve as faculty advisers for thesis and dissertation students and chairs of thesis and dissertation committees. The following guidelines outline the minimal credentials necessary for faculty to serve the many different roles they play in graduate education. Programs may set higher qualification standards or additional requirements. As the university is committed to encouraging, facilitating and rewarding interdisciplinary, multi-disciplinary and cross-disciplinary educational and scholarly activities, service of faculty and staff members in more than one department, school, center/institute, or college is encouraged as a way to further this objective.

Faculty engaged in graduate education must possess either a terminal academic degree in, or closely related to, the discipline in which they are teaching, or expertise in a field related to the topic of the thesis or dissertation, if serving on a thesis or dissertation committee. Substitution for the terminal degree may be granted with documented relevant exceptional experience and scholarly or creative activity when recommended by the graduate program committee and approved by the department chair/unit director. No graduate student at UCF may teach UCF graduate courses as the instructor of record.

For the appointment of individuals in the process of obtaining a terminal degree, the College of Graduate Studies can certify that all requirements for a degree have been met.

Members of the Graduate Faculty cannot have personal or financial (including employment) arrangements that may pose a conflict of interest with a student on whose thesis or dissertation committee they serve.

This policy has five major sections:

- Section A defines the terms describing the roles played by faculty in graduate education.
- Section B establishes the role of the graduate program committees in the process of appointing Graduate Faculty and Graduate Faculty Scholars.
- Section C establishes the roles and qualifications for appointment as Graduate Faculty and Graduate Faculty Scholars.
- Section D establishes procedures for review, renewal and termination of appointments to the Graduate Faculty.
- Section E establishes the responsibilities for the various members of dissertation committees.

A.1: Faculty Roles in Graduate Education

Faculty involved in graduate education comprise members of the Graduate Faculty (Sections C.1-C.2) and Graduate Faculty Scholars (Section C.3). These faculty may be eligible to assume the following roles as part of their involvement in graduate education at UCF:

- Instructor of record for graduate-level courses (graduate teaching)
- Member of a thesis or dissertation committee

- Chair of a thesis or dissertation committee: In the vast majority of cases, the chair is the adviser of the scholarly activities of the student. A chair of a thesis or dissertation committee also oversees all of the administrative functions of the committee. A Graduate Faculty Scholar is not eligible to serve as a chair of a thesis or dissertation committee.
- Co-chair of a thesis or dissertation committee: A co-chair is a member of a thesis or dissertation committee who shares with the chair in the scholarly advisory activities of the student. In cases in which a Graduate Faculty Scholar oversees the day-to-day scholarly activities of the student, the Graduate Faculty Scholar may be appointed as a co-chair of the thesis or dissertation committee.
- Vice-chair of a thesis or dissertation committee: A vice-chair serves as a voice of experience in thesis and dissertation committees. A vice-chair must be appointed to committees in which the chair has no prior experience serving on thesis or dissertation committees. To be appointed as a vice-chair, the committee member must have prior experience serving on at least one thesis or dissertation committee that has successfully graduated a student.

Descriptions of the responsibilities of members and chairs of dissertation committees are detailed in Section E.

B.1: Graduate Program Committees

Each graduate program will be administered by a graduate program committee consisting of faculty members who participate in the program. An active graduate program committee is required for each graduate program in order to provide program oversight and to ensure that the qualifications of contributing individuals are appropriate for participation in graduate education. Graduate program committee members are appointed in accordance with established department/school procedures and the qualifications established in this document.

B.2: Qualifications for Serving on Graduate Program Committees

Tenured, tenure-earning or ranked faculty who are members of the Graduate Faculty may serve on graduate program committees. The graduate program director will be the chair of the graduate program committee.

C.1: The Graduate Faculty

Tenured, tenure-earning, ranked Clinical or ranked Research professors, ranked lecturers or ranked instructors, and ranked librarians are eligible for appointment to the Graduate Faculty. Appointment to the Graduate Faculty begins with a nomination by the graduate program committee that is relevant to the graduate education duties of the individual faculty member. The nomination must then be approved by the department chair/unit director for review and appointment by the Dean of the College of Graduate Studies. Qualified graduate faculty members may be eligible to serve in more than one graduate program. Graduate faculty members who are outside of a students program are eligible to serve as external members of a thesis or dissertation advisory committee.

Special graduate faculty nominations may be made to the Graduate Council at the discretion of the Dean of the College of Graduate Studies.

All graduate faculty are eligible to teach graduate courses, serve as members of thesis and dissertation committees, and serve as chairs or co-chairs of masters thesis committees.

C.2: Eligibility Criteria for Service as Chairs of Thesis and Dissertation Committees

All chairs and co-chairs must be approved by the graduate program committee of the students program. Graduate program committees may specify additional guidelines for service as a chair or co-chair of thesis or dissertation committees.

Scholarly currency requirement to serve as a chair of a dissertation committee: For graduate faculty members to serve as a chair or co-chair of a dissertation committee, they must demonstrate significant current involvement in scholarly research or creative productivity. Scholarship and creative activity are evidenced and recognized through publications, presentations, performances, exhibits, awards and competitions. Other considerations include a continuing fulfillment of professional obligations through, for example, manuscript review, journal editorship, and national advisory and review panels. The criteria for scholarly currency are to be established by each graduate program and approved by the department chair/unit director. The criteria must be submitted to the Dean of the College of Graduate Studies prior to nominations for graduate faculty appointments and updated for the reappointment process.

Required thesis or dissertation committee experience: Graduate faculty who have not served as a member of a thesis or dissertation committee to completion may serve as the chair of a thesis or dissertation committee, but must have a vice-chair appointed to the committee who has previously served as a member of a thesis or dissertation committee to completion.

C.3: Graduate Faculty Scholars

Other qualified individuals may serve as graduate faculty scholars in graduate faculty roles confined to specific, well-defined graduate faculty assignments. Graduate faculty scholars play important roles in graduate education at UCF, but their status as graduate faculty scholars is distinct from that of members of the Graduate Faculty.

The appointment of graduate faculty scholars begins with a nomination by the graduate program committee that is relevant to the graduate education duties of the individual. The nomination must then be approved by the department chair/unit director for review and appointment by the Dean of the College of Graduate Studies.

Graduate faculty scholars may be designated as Teaching-Only if their responsibilities will be restricted solely to teaching graduate courses.

Graduate faculty scholars may serve as members of thesis or dissertation committees for the purpose of bringing specific disciplinary knowledge to the committee. In instances deemed appropriate by the graduate program committee, graduate faculty scholars may also serve as co-chairs or vice chairs of thesis and dissertation committees, but may not serve as chairs of these committees. Graduate faculty scholars serving on thesis and dissertation committees, either as members or co-chairs, must have documented evidence of exceptional relevant experience and/or scholarly or creative productivity, as determined by the graduate program committee.

It is expected that graduate faculty scholars will attend the various committee meetings associated with serving as a member of a thesis or dissertation committee.

D.1: Graduate Faculty Reappointments

Individual qualifications for reappointment as a graduate faculty member will be re-evaluated by the Program Review Committee of the Graduate Council. Reappointment evaluations will be conducted at the time of the periodic university program review, or sooner, as deemed appropriate by the graduate program committee or at the request of the Dean of the College of Graduate Studies. At that time, individuals must re-submit their current credentials to the Program Review Committee of the Graduate Council if they wish to have their appointment renewed. Qualifications will be based upon accomplishments since the last program review and the criteria established by the nominating graduate program.

D.2: Guidelines for a Thesis or Dissertation Committee Member Who Leaves UCF

A thesis or dissertation committee member who leaves UCF may be eligible to continue serving on the committee as a graduate faculty scholar with the approval of the graduate program committee.

D.3: Guidelines for a Thesis or Dissertation Committee Chair Who Leaves UCF

In the event that a chair of a thesis or dissertation committee leaves UCF:

1. With the approval of the graduate program committee, a chair of a thesis or dissertation committee who leaves UCF may continue to serve as chair and supervise the thesis or dissertation for one calendar year after leaving.
2. If one calendar year has passed since the faculty member left UCF and the advisee has not yet completed the degree requirements, the departed faculty member may continue to serve as co-chair of the thesis or dissertation committee as a graduate faculty scholar, with approval of the graduate program committee; however, a new chair from the students department (or college, if a college-wide program) shall be designated.

D.4.1: Faculty Emeriti

Emeritus graduate faculty members may continue to participate in graduate education as a graduate faculty scholar, without the necessity of nomination. With the approval of the graduate program committee, they may continue to serve for a specified period of time as faculty advisers and chairs of thesis and dissertation committees established prior to emeritus status. Emeriti faculty may not chair additional thesis and dissertation committees, but may continue to serve on thesis and dissertation committees as a member or co-chair for as long as they remain active with the institution.

D.4.2: Retired Faculty

Graduate faculty who retire may continue to play roles in graduate education at UCF if they are nominated by a graduate program committee for appointment as a graduate faculty scholar. In this capacity, they may continue service on thesis or dissertation committees as a member or co-chair for a designated period of time, as approved by the graduate program committee.

E.1: Responsibilities of Members of Dissertation Committees

1. To meet at regular intervals at least once per year to: (i) discuss and approve the proposed dissertation research and the plans for carrying out the research; and (ii) to assess progress towards the dissertation and give the student a yearly letter of evaluation in addition to S/U grades awarded for 7980 courses.
2. To review iThenticate results from dissertation submittals.
3. To participate in the candidacy and/or dissertation prospectus examination.
4. To participate in the dissertation defense to assure: (i) that the dissertation is acceptable as original research and a contribution to the discipline; and (ii) that it meets the standards of the University.

E.2: Responsibilities of the Chair (and co-Chair) of Dissertation Committees

1. In cooperation with the program director, to review the program of study, the research, and all other degree requirements by meeting with the student early in the program and immediately after appointment as chair/co-chair.
2. To suggest to the student possible committee members who could serve on the dissertation committee.
3. To establish timelines for the research, set expectations, and evaluate the student progress based upon these.
4. To meet at regular intervals with the student to discuss the proposed dissertation research and the plans for carrying out research.
5. To review in a timely manner all written materials submitted by the student and offer suggested revisions.
6. To meet at least once per year with the student and the dissertation committee to assess progress toward the dissertation and give the student an annual review in addition to the S/U grades awarded for 7980 courses. The chair shall send the annual review to the program director after consultation with the dissertation committee.

7. To coordinate the ongoing efforts of the committee as its chair, and to participate fully in the responsibilities of the committee members as a member of the dissertation committee.
8. To chair the candidacy and/or dissertation prospectus examinations.
9. To be physically present and chair the dissertation defense, ensure its proper conduct as described above, and submit to the program director for the students records all necessary grades, forms and other materials.
10. In disciplines where funding is essential to the success of the thesis or dissertation work, to acquire funds (and appropriate facilities) sufficient to support the research of the student.

E.3: Responsibilities of the External Committee Member of a Dissertation Committee

1. External committee membership will entail the full responsibilities of other committee membership as specified in section E.1 above, including being present at the final defense.
2. External committee members should bring specific disciplinary knowledge or research expertise to the committee.
3. External committee members may be appointed from outside of the university or outside of the college (if the committee is for a college-wide program). The external committee member may not be affiliated in any way with the department of the committee, such as through joint or secondary joint appointments.
4. Graduate faculty scholars are external members.

E.4: Dissertation Committee Procedures

1. For on-campus defenses, no fewer than four faculty members, including all members of the dissertation committee, shall be in attendance with the student during the dissertation defense, and at least half of the committee must be physically present.
2. Graduate programs may elect to offer the option of a virtual dissertation defense (student off-campus defense) upon approval of the graduate program director, the department, and the college. If the student defends virtually, at minimum the dissertation committee chair will be present at the campus location of the public defense. No fewer than four faculty members, including all members of the dissertation committee, shall be in attendance during the dissertation defense.
3. Only members of the dissertation committee may sign the dissertation, and a majority must approve the dissertation.

F.1: Exceptions

Exceptions may be made at the discretion of the Vice Provost and Dean of the College of Graduate Studies.

Research

Overview

Research includes work in and across multiple disciplines such as optics and lasers, modeling and simulation, materials science, energy, biomedical sciences,nanoscience, computer science, forensic science, education/distributed learning, and business operations including entrepreneurship.

The university has focused its research efforts on key areas of excellence that overlap regional and state efforts to accelerate Florida's innovation economy. Some of theinstitutes and centers working toward that goal include the Institute for Simulation and Training, the Center for Research and Education in Optics and Lasers/Florida Photonics Center of Excellence, the Florida Solar Energy Center, the Advanced Materials Processing and Analysis and NanoScience Technology Center, and the Burnett School of Biomedical Sciences.

UCF is delivering on its promise of becoming America's leading partnership university through relationships on local, national and international levels. A significant amount of the sponsored research UCF generates annually is provided by industry along Florida's High-Tech corridor from Tampa/St. Petersburg through Orlando to Daytona/Melbourne. The scholarly work of UCF's faculty and students often results in disruptive technology which in turn can result in new products for existing companies and the creation of new companies.

For more information, visit www.research.ucf.edu.

Research Strengths

UCF has built research strengths in a variety of areas including optics and photonics, engineering, modeling and simulation, computer science, alternative energy, and the emerging areas of nanoscience and life sciences, in order to become a catalyst for the region's high-tech development. A strong spirit of collaboration has made UCF an attractive partner for many central Florida high-tech businesses that, in turn, have provided UCF students with real-world experiences.

The UCF Office of Researchand Commercialization strives to excel as an organization that takes ideas from innovation to realization.

Research and Employment Opportunities

Students can find research and employment opportunities through UCF or many of the 21,000 high-tech companies doing business in the Central Florida High-Tech Corridor. As one of the region's largest high-tech employers, UCF employs hundreds of BS through PhD scientists and engineers. Sponsored research activities result in millions of new dollars for the local economy ($113.06 million in extramural research funding in 2013) and helps attract, retain and grow high-tech companies in the region. Through the highly successful UCF Business Incubation Program, graduate students can work with start-up companies or bring their own innovations to market. The Central Florida Research Park, located adjacent to the UCF Orlando campus, is a hotbed for sponsored research, industrial partnerships, internships and employment opportunities for UCF students and graduates. The university's Office of Research& Commercialization fosters the creation of intellectual capital that can solve today's pressing problems, improve quality of life, and provide an engine for economic growth.

Students are the foundation of UCF's commitment to enhancing central Florida's high-tech base. By focusing on providing the best undergraduate education in Florida, particularly in science and engineering; investing in selected areas of research and graduate studies; and attracting leading students and scholars to UCF's research centers of excellence (in optics and photonics, alternative energy,materials science and engineering, modeling and simulation and training, biomedical sciences,etc.), UCF aims to take technology to the next level of knowledge and application. Research teams of faculty, students, and research staff generate the kind of "disruptive technology" that results in new products, new companies, and highly trained new research scientists.

The University of Central Florida has several nationally and internationally recognized research centers and institutes that offer students the opportunity to work hands-on with experienced researchers. Other organized research units complement the activities of academic departments and engage graduate students in instructional and research roles. For more information regarding the university's centers, institutes, and other organized programs of research, visit www.research.ucf.edu.

CREOL

Funding in 2013 |$9.01 million

CREOL, the College of Optics and Photonics provides high quality education in optical science and engineering, conducts scholarly fundamental and applied research, and aids in the development of technology-based industries in Florida and throughout the nation. CREOL is home to a laser technology center of excellence, the Townes Laser Institute, was named after Nobel laureate Charles Hard Townes, who made fundamental inventions that led to the laser, the institute's mission is to make UCF the premier institution in advanced laser technology in the United States. Research activities in CREOL include:

- Diffractive and holographic optics
- Fiber Optics Fabrication
- Fiber Optics Communications
- Image analysis and understanding
- IR systems and technology
- Laser system development
- Laser-aided materials processing
- Liquid crystal optics
- Nonlinear optics
- Optical glass sciences
- Optoelectronics
- Nanophotonics
- Photonic information processing systems
- Quantum Optics
- Remote sensing, laser radar and atmospheric propagation
- Theory of light matter interaction
- Virtual reality and medical imaging
- Biophotonics
- X-Ray sources and technology

Dean and Director: Bahaa Saleh
www.creol.ucf.edu
407-823-6800

IST

Funding in 2013 |$9.2 million

The Institute for Simulation and Training (IST) is an internationally recognized research institute that focuses on advancing modeling and simulation technology and increasing the understanding of simulation's role in training and education. Research activities include:

- Multi-resolution simulation
- Mixed reality simulation
- Connectivity
- Computer generated forces
- Virtual environments
- Computer graphics
- Terrain databases
- Low-cost graphics
- Training and education
- Augmented reality
- New simulation environments
- Medical applications
- Public safety simulation
- Parallel computing
- Information systems technology
- Robotics and machine cognition

Director: Randall Shumaker
www.ist.ucf.edu
407-882-1300

FSEC

Funding in 2013 |$7.7 million

Located at UCF Cocoa, the Florida Solar Energy Center (FSEC) is the largest and most active state-supported renewable energy and energy efficiency research and training organization in the United States. FSEC researches and develops energy technologies to reduce Florida's use of energy and enhance its economy and environment, and educates the public, practitioners, and students on the results of the research. Research activities include:

- Solar thermal systems
- Photovoltaic systems, applications and cells
- Energy efficiency and building science
- Indoor air quality
- Advanced HVAC systems
- Hydrogen energy from renewable resources
- Pollutant detoxification
- Energy-Efficient Industrialized Housing
- Cost-Effective Solar Program for Utilities/ESCOs
- Energy-Efficient New Homes Program

Director: James Fenton
www.fsec.ucf.edu
321-638-1000

Burnett School of Biomedical Sciences (College of Medicine)

Funding in 2013 |$8.4 million

At the University of Central Florida, biomedical researchers are advancing our understanding of human disease and developing innovative methods of treatment. Many are engaged in research on the worlds most prevalent and serious health problems, including cancer and cardiovascular, infectious and neurodegenerative diseases. The Burnett School of Biomedical Sciences, part of UCFs College of Medicine, is building nationally recognized research programs and undergraduate and graduate programs in biomedical sciences. Research activities include:

- Molecular and genomic basis of diseases
- Advanced fluorescence microscopy
- Allergy
- Antithrombotics
- Arthritis
- Bionanotechnology in therapeutics
- Cancer
- Cardiovascular diseases/ischemic heart disease
- Cell signal transduction
- Crohn's disease
- Developmental genetics
- Giardia
- High-yield recombinant protein production using plants as bioreactors
- Kidney ischemia
- Image analysis
- Inflammation
- Magnetic force microscopy
- Malaria
- Mechanisms of cell death
- Mechanisms of gene expression control
- Molecular immunology
- Neuron guidance damage and repair
- Photoctivated drugs
- Raman spectral microscopy
- Reproduction

- Synthesis of antimetabolites
- Thalassemia
- Transcription factors and proteomics
- Tuberculosis
- Uptake and delivery of drugs
- Vaccines

Interim Director: Richard Peppler
www.biomed.ucf.edu/
407-266-1101

AMPAC

Funding in 2013 |$2.3 million

The Advanced Materials Processing and Analysis Center (AMPAC) excels in the development, processing, and characterization of advanced materials, including structural, electronic, optical and nanomaterials. The overall mission of the Center is to advance fundamental and applied multidisciplinary research in materials through combining resources of UCF and local industries. AMPAC is home to the Materials Characterization Facility (MCF), a facility with state-of-the-art surface and materials characterization equipment and the newly-commissioned Advanced Microfabrication Facility (AMF), for processing of Micro Electromechanical systems, miniaturized systems, devices and thin films.Research activities include:

- High temperature materials and coatings
- Micro and nano fabrication
- Nanomaterials, synthesis and consolidation
- MEMS and smart materials
- Multi-scale mechanical property characterization
- Atomic scale characterization of materials
- Chemical mechanical polishing (CMP)
- Acoustic wave devices
- Microelectronics materials processing and device characterization

Director: Sudipta Seal
www.ampac.ucf.edu
407-882-1455

Nanoscience Technology Center

Funding in 2013 |$4.9 million

UCFs NanoScience Technology Center (NSTC) applies multidisciplinary expertise in nanoscale science and technology to problems of regional, state, and national significance in order to acquire new knowledge, educate students, create new technology and promote industrial development. Research activities include:

- Microfluids
- Controlled cell attachment/growth via surface chemistry
- *In vitro* modeling of spinal reflex arc
- Neuronal networks to model physiology
- Patterned neuronal networks for robotics
- Engineered cardiac myocyte hybrid systems
- MEMS and NEMS
- Materials synthesis and characterization
- Neuronal cell patterning
- Cell-based biosensors for drug discovery/toxin detection
- High throughput drug screening

Director: Sudipta Seal
www.nanoscience.ucf.edu
407-882-1578

Central Florida Research Park

The thousand-acre Central Florida Research Park, affiliated with UCF, is ranked among the top ten research parks in the nation.

UCF is in the company of North Carolina's Research Triangle and Stanford University in California at the pinnacle of research parks, says Research Park Executive Director Joe Wallace. "Whether by the number of acres, by the number of buildings, the number of companies or employees, we're always in the top ten, by whatever criteria used," he notes.

Today, the 1,027 acre campus-like office park is home to about 106 companies, 9,500 employees, many of them students and UCF graduates, and elements of the U.S. Army, Navy and Marines, as well as university departments and projects. Although the park's foundation is U.S. military simulation and training research, the door is open to any other enterprise which can enhance UCF and the area's economic development through partnerships with the university and research park.

UCF's Institute for Simulation and Training, the Advanced Materials Processing and Analysis Center (AMPAC), the Nano Science Technology Center, Central Florida Technology Development Center, the National Center for Forensic Science, Crime Mapping and Data Management and Public Safety Research centers are in the Research Park, along with the Naval Air Warfare Center Training Systems Division and other joint missions with government entities.

On the private side, Siemens/Westinghouse, AT&T Wireless, Silicon Graphics, Hewitt Associates and others operate in the park. UCF's Incubation Program is also in the Research Park, providing private industries resources to help them transition university research into products and service.

Office of Research & Commercialization

Research

UCF's research enterprise plays an important role in Florida's emergence as a technological and economic leader in the twenty-first century.

Since its inception as Florida Technological University, UCF has attracted scholars whose curiosity about the world around them has resulted in new inventions that have benefited the citizens of central Florida, the state and beyond in countless ways.

Building a Leading Research Institution

UCF researchers received $103.6 million in external funding in 2013, leading UCF into the ranks of major research institutions. In 2010, UCF was elevated to the top tier of the nation’s research universities by the Carnegie Foundation for the Advancement of Teaching. UCF’s dedicated faculty, students and staff continue to expand the quality, depth and breadth of research programs conducted at the university.

Research & Commercialization

The new economy encourages the rapid progression of discoveries from the laboratory to the marketplace, and UCF is a national leader in this area. The success of the UCFBusiness Incubation Program, the National Entrepreneur Center (supported by UCF), the UCF Venture Lab, and the new UCF Center for Innovation and Entrepreneurship all illustrate UCF's commitment to innovation-based economic development in the region.

Student Research

Graduate education and research go hand-in-hand. The great discoveries of the twenty-first century will come from the creative efforts of university faculty working closely with bright and motivated graduate students. Graduate students, particular those pursuing doctoral degrees, broaden the knowledge base of their disciplines. UCF undergraduates, through the Undergraduate Research Initiative, work one-on-one with Florida faculty on selected research projects.

The university's graduate programs have produced generations of professionals in a wide variety of disciplines, many of whom have risen to positions of prominence in our state, the nation and the world.

Vice President for Research & Commercialization:
M. J. Soileau
www.research.ucf.edu
407-823-5538

UCF Colleges and Special Programs

College of Arts and Humanities

Web Address: http://www.cah.ucf.edu
Web Addresses: http://graduate.cah.ucf.edu

The College of Arts and Humanities offers programs in the following academic departments: English, History, Modern Languages and Literatures, Philosophy, and Writing and Rhetoric. The college oversees and also offers graduate programs in the School of Visual Arts and Design, the School of Performing Arts, and the Florida Interactive Entertainment Academy (FIEA). In addition to these departments, the college offers six graduate certificates (see below). The College of Arts and Humanities also offers an interdisciplinary PhD in Texts and Technology.

The College's Graduate Studies office serves the needs of students by providing friendly, easily accessible support and advisement, and by assisting with record keeping, registration, and graduation. It supports the academic development of students and faculty by providing appropriate resources, encouraging scholarly and creative activities, and promoting quality graduate education and research facilities. The areaalso supports the establishment and development of new and competitive graduate programs by serving as a responsive source of information for students, faculty, and staff, by encouraging increases in the number and quality of graduates, and by serving as a liaison between the programs and the College of Graduate Studies.

The College's Graduate Studies office assists students in matters concerning college and university requirements and procedures. Students should address questions concerning admission materials, acceptance notification, program of study, graduate committee membership, thesis and dissertation approvals, fellowship and financial information, waiver and petition forms, and graduate certifications to their respective department. However these items are processed through this office for all graduate students in the college. Questions concerning university and college graduate policies affecting Arts and Humanities programs should be directed to the Office ofAcademic Support in the College of Arts and Humanities Dean's Office, CAH 190.

College Administration

- Jeffrey Moore, Dean
- Lyman Brodie, Associate Dean
- Lynn Hepner, Associate Dean
- Rudy McDaniel, Assistant Dean
- Nancy Stanlick,Associate Dean
- Cathy Radzai, Assistant Dean

19 Programs

Certificate

- Cognitive Sciences Graduate Certificate
- Ethics Graduate Certificate, Theoretical and Applied
- Gender Studies Graduate Certificate
- Professional Writing Graduate Certificate
- Teaching English as a Foreign Language Graduate Certificate

Doctoral

- Texts and Technology PhD

Master

- Digital Media MA
  - Visual Language and Interactive Media
- English MA

- Literary, Cultural, and Textual Studies
- Technical Communication
- English MA, Rhetoric and Composition

Master continued…

- History MA
  - Accelerated Graduate Program in History
  - Public History
- Interactive Entertainment MS
- Music MA
- Spanish MA
- Teaching English to Speakers of Other Languages MA
- Theatre MA

MFA

- Creative Writing MFA
- Emerging Media MFA
  - Animation and Visual Effects
  - Digital Media
  - Entrepreneurial Digital Cinema
  - Studio Art and the Computer
- Theatre MFA
  - Acting MFA
  - Theatre for Young Audiences MFA

College of Business Administration

Web Address:	http://web.bus.ucf.edu/
Web Address:	http://www.bus.ucf.edu/students/graduate
Email:	cbagrad@bus.ucf.edu

The College of Business Administration offers two certificate programs,five master's programs and adoctoral program. All graduate programs in business administration are accredited by the Association to Advance Collegiate Schools of Business (AACSB). Theprofessional programs leading to the master's degree are: Master of Business Administration, Master of Sport Business Management,Master of Science in Accounting, Master's in Management, and a Master's in Real Estate. Also offered on the main campus is a full-time Doctor of Philosophy (PhD) in Business Administration. Two certificate programs are offered in Entrepreneurship and Technology Ventures.

The mission of the College of Business Administration at the University of Central Florida is to provide quality business education programs, at the undergraduate, graduate, and executive levels, to the citizens of the state of Florida and to selected clientele nationally and internationally. In delivering these programs, the college places primary emphasis on excellence in teaching and research with a strong commitment to developing mutually supportive relationships with the business community of central Florida.

In pursuit of its mission, the College of Business Administration affirms its commitment to the university's focus on excellence and accent on the individual. Furthermore, the college pledges to deliver innovative and progressive programs to its clientele.

College Administration

- Paul Jarley,Dean
- TaylorEllis, Associate Dean of Undergraduate Programs, Associate Dean of Graduate Programs,and Technology
- Foard Jones, Associate Dean, Administration, Human Resources and Facilities

11 Programs

Certificate

- Entrepreneurship Graduate Certificate
- Technology Ventures Graduate Certificate

Doctoral

- Business Administration PhD
  - Accounting
  - Finance
  - Management
  - Marketing

Master

- Accounting MSA

Master continued…

- Business Administration MBA
  - 1 Year, Full-Time Program
  - Evening
  - Executive
  - Professional
- Economics MS
- Management MSM
  - Business Analytics
  - Human Resources / Change Management
- Real Estate MSRE
- Sport Business Management MSBM
- Taxation MST

College of Education and Human Performance

Web Address:	http://education.ucf.edu/
Web Addresses:	http://education.ucf.edu/grad/
Email:	edgrad@ucf.edu

Graduate programs in the College of Education and Human Performanceare offered for students who have completed at least a baccalaureate degree. Both degree and non-degree programs may be planned for people in education-related positions in social and government agencies, business and industry, as well as for professional educators in private and public schools. Master of Education, Master of Science, and Master of Arts degrees are awarded in many dynamic fields. Education Specialist degrees are offered in School Psychology, Education with a track in School Counseling or a track in 'Master's plus 30', and Educational Leadership. Doctor of Education degrees are available in both Educational Leadership andCurriculum and Instructionwith several specialization options. The Doctor of Philosophy in Education is available withfourteen tracks: Communication Sciences and Disorders, Counselor Education,Early Childhood Education, Elementary Education, Exceptional Education, Exercise Physiology, Higher Education, Instructional Technology, Mathematics Education, Methodology/Measurement andAnalysis,Reading Education, Science Education, Social Science Education, and TESOL. The College of Education is accredited by CAEP (Council for the Accreditation of Educator Preparation). In addition, the School Psychology program is accredited by the National Association of School Psychologists (NASP), and the Counselor Education program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). The Counselor Education program includes Mental Health Counseling (MA), School of Counseling (MA, Med), and Counselor Education(PhD).

Doctoral Programs

The College of Education and Human Performance offers the PhD in Education with tracks in Communication Sciences and Disorders, Counselor Education, Early Childhood Education, Elementary Education, Exceptional Education, Exercise Physiology, Higher Education, Instructional Technology, Mathematics Education,Methodology/Measurement andAnalysis, Reading Education, Science Education, Social Science Education, and TESOL.The PhD in Education is a research-oriented degree appropriate for educators from school districts, businesses, industry, educational agencies, and other educational settings who need a strong research base in their careers. It is the intent of this program to be interdisciplinary, allowing flexibility for students who will work with faculty in research clusters and learning communities on education-related research. Programs of study can be designed for those educators who seek teaching positions in a research university or a research-oriented position in business and industry.

Doctor of Education (EdD) programs are offered in two areas: Educational Leadership andCurriculum and Instruction. Educational Leadership offers two tracks:the Executive Track (K-12) and the Higher Education Track (college and university). Both track areas are designed for students who are interested in management and leadership positions in educational organizations. Professional experience and leadership potential are important considerations for admission to the Educational Leadership Program. We also offer an EdD inCurriculum and Instructionwith several options for specialization areas, designed for those interested in teaching in a college of education, teaching a content field at the community college level, becoming a school district leader in curriculum and instruction, or performing instructional design tasks in military or business settings.

Education Specialist Programs

Education Specialist (EdS) degree programs are offered in three areas: Education, for persons in teaching and other instruction/training leadership positions; Educational Leadership, for those who are interested in decision-making positions in educational organizations; and School Psychology, for students preparing to enter the specialized fields of School Psychology or School Counseling.

Because the courses of the EdS degree may differ from those of the EdD, credit earned in an EdS degree program may not be automatically transferable to a doctoral degree program. When a recipient of an EdS degree is accepted for a doctoral program, the respective doctoral advisory committee will determine the amount of applicable credit earned in the EdS for the doctoral program. In any case, 15 semester hours is the maximum amount of credit transferable to a doctoral program of study with adviser approval.

Master’s Programs

Programs are offered in a wide variety of areas within the general field of education. Master of Education programs, generally, are open only to qualified students who have completed a baccalaureate degree and have completed course work for regular Florida State Teaching Certification. This degree is appropriate for practicing educators who wish to update and extend knowledge of their present teaching field. Master of Science programs are offered in fields not requiring state certification.

Master of Arts programs leading to initial certification are open to qualified individuals who are seeking both a master's degree and a new teaching certification or to qualified students seeking a master's degree in a field not requiring state teaching certification. Students who are presently teaching with a valid Florida Teaching Certificate may add a teaching field to their certificate by completing a Master of Arts degree. Those students without previous certificationwho are seeking initial certification in a teaching area will be required by the program area to complete an internship tograduate from a state-approved program. Master's candidates must also complete a portfolio as part of the requirements of an internship.

NOTE: All Master of Arts programs at UCF leading to initial certification are state-approved programs. Completion of the prescribed program results in the affixing of a state-approved program stamp to the transcript. This stamp ensures that certification will be issued by the Florida Department of Education in the indicated area. Failure to complete the prescribed state-approved program through petitions, waivers, or unauthorized course substitutions will be cause not to affix the stamp of approval on the transcript. While the student may graduate with a Master of Arts, a transcript without the stamp will be evaluated for certification on a course-by-course basis. UCF and the College of Education and Human Performance do not guarantee that any non-stamped program transcript will lead to certification by the Florida Department of Education.

College Administration

- Pamela Sissi Carroll, Dean
- Jesse Perez "JP" Mendez, Associate Dean for Academic Affairs
- Dave Edyburn,Associate Dean for Research

53 Programs

Certificate

- Advanced Quantitative Methodologies in Educational and Human Sciences Graduate Certificate
- Autism Spectrum Disorders Graduate Certificate
- Career Counseling Graduate Certificate
- Community College Education Graduate Certificate
- e-Learning Professional Development Graduate Certificate
- ESOL Endorsement K-12 Graduate Certificate
- Gifted Education Graduate Certificate
- Global, International and Comparative Education Graduate Certificate
- Initial Teacher Professional Preparation Graduate Certificate
- Instructional / Educational Technology Graduate Certificate
- Instructional Design for Simulations Graduate Certificate
- Instructional Design Graduate Certificate
- Intervention Specialist Graduate Certificate
- K-8 Mathematics and Science Education Graduate Certificate
- Marriage, Couple, and Family Therapy Graduate Certificate
- Mathematics and Science Educator Graduate Certificate
- Play Therapy Graduate Certificate
- Prekindergarten Disabilities Graduate Certificate
- Reading Education Graduate Certificate
- Severe or Profound Disabilities Graduate Certificate
- Social Science Education Graduate Certificate
- Special Education Graduate Certificate
- Supporting High Needs Populations Graduate Certificate
- World Languages Education – English for Speakers of Other Languages (ESOL) Graduate Certificate
- World Languages Education – Languages Other Than English (LOTE) Graduate Certificate

Doctoral

- Curriculum and Instruction EdD
- Education PhD
    - Communication Sciences and Disorders
    - Counselor Education
    - Early Childhood
    - Elementary Education
    - Exceptional Education

- Exercise Physiology
- Higher Education
- Instructional Design and Technology
- Mathematics Education
- Methodology, Measurement and Analysis
- Reading Education
- Science Education
- Social Science Education
- Teaching English to Speakers of Other Languages

- Educational Leadership EdD
  - Executive
  - Higher Education

Master

- Applied Learning and Instruction MA
- Career and Technical Education MA
- Counselor Education MA
  - Clinical Mental Health Counseling
  - School Counseling

Master continued…

- Counselor Education Med
  - School Counseling
- Curriculum and Instruction Med
  - Art Education
  - Curriculum Leadership
  - Educational Technology
  - Gifted Education
  - Global, International and Comparative Education
  - Intervention Specialist
  - Supporting High Needs Populations
- Early Childhood Development and Education MS
- Educational Leadership MA
  - Higher Education / Community College Education
  - Higher Education / Student Personnel
  - Student Athlete Support Services
- Educational Leadership Med
- Elementary Education MA
- Elementary Education Med
- Exceptional Student Education K-12 MA
- Exceptional Student Education Med
- Instructional Design and Technology MA
  - Educational Technology
  - e-Learning
  - Instructional Systems
- K-8 Mathematics and Science Education Med
- Marriage, Couple, and Family Therapy MA
- Reading Education Med
- Secondary Education Med
  - English Language Arts Education
  - Mathematics Education
  - Science Education
  - Social Science Education
- Sport and Exercise Science MS
- Teacher Education MAT
  - Art Education
  - English Language Arts Education with ESOL Endorsement
  - Mathematics Education
  - Middle School Mathematics Education
  - Middle School Science Education
  - Science Education-Biology
  - Science Education-Chemistry
  - Science Education-Physics
  - Social Science Education

Nondegree

- Education Undecided or Certification

Specialist

- Education EdS
  - Master's +30
  - School Counseling
- Educational Leadership EdS
- School Psychology EdS

College of Engineering and Computer Science

Web Address:	http://www.cecs.ucf.edu
Web Addresses:	http://www.cecs.ucf.edu/current-students/graduate-programs-advising/
Email:	gradengr@ucf.edu

The College of Engineering and Computer Science offers graduate programs leading to Master of Science and Doctor of Philosophy degrees. Each department within the college offers options for a specialized education.

The College of Engineering and Computer Science has the following departments with graduate programs:

- Civil, Environmental, and Construction Engineering
- Computer Science
- Electrical Engineering and Computer Engineering
- Industrial Engineering and Management Systems
- Materials Science and Engineering
- Mechanical and Aerospace Engineering.

College Administration

- Michael Geogiopoulos, Dean
- Charles Reilly, Associate Dean for Academic Affairs
- Mostafa Bassiouni, Interim Associate Dean for Graduate Affairs
- Ranganathan Kumar, Associate Dean for Research and Administration

36 Programs

Certificate

- Applied Operations Research Graduate Certificate
- Computer Forensics Graduate Certificate
  - Out of State Cohort
- Design for Usability Graduate Certificate
- Project Engineering Graduate Certificate
- Quality Assurance Graduate Certificate
- Structural Engineering Graduate Certificate
- Systems Engineering Graduate Certificate
- Training Simulation Graduate Certificate
- Transportation Engineering Graduate Certificate

Doctoral

- Civil Engineering PhD
- Computer Engineering PhD
- Computer Science PhD
- Electrical Engineering PhD
- Environmental Engineering PhD
- Industrial Engineering PhD
- Materials Science and Engineering PhD
- Mechanical Engineering PhD

Master

- Aerospace Engineering MSAE
  - Accelerated BS to MSAE
  - Space Systems Design and Engineering
  - Thermofluid Aerodynamic Systems Design and Engineering
- Biomedical Engineering MSBME
  - Accelerated BS to MSBME
  - Biofluids
  - Biomechanics
  - MD / MSBME

Master continued...

- Civil Engineering MS
  - Structural and Geotechnical Engineering
  - Transportation Systems Engineering
  - Water Resources Engineering
- Civil Engineering MSCE

- Computer Engineering MSCpE
  - Accelerated BS to MSCpE
- Computer Science MS
  - Accelerated BS to MS
- Data Analytics MS
- Digital Forensics MS
- Electrical Engineering MSEE
  - Accelerated BS to MSEE
- Engineering Management MSEM
  - Professional Engineering Management (PEM), Professional Science Master's
- Environmental Engineering MS
  - Environmental Engineering Sciences
- Environmental Engineering MSEnvE
- Industrial Engineering MS
  - Accelerated BS to MS
  - Healthcare Systems Engineering
- Industrial Engineering MSIE
- Materials Science and Engineering MSMSE
  - Accelerated BS to MSMSE
- Mechanical Engineering MSME
  - Accelerated BS to MSME
  - Mechanical Systems
  - Thermofluids

College of Health and Public Affairs

Web Address:	http://www.cohpa.ucf.edu/
Web Addresses:	http://www.cohpa.ucf.edu/graduate
Email:	cohpagraduate@ucf.edu

Drawing strength from its diversity, the College of Health and Public Affairs fosters excellence in graduate education, research and community service in health and public affairs, social and justice services, and basic and applied life sciences. The college offersthree doctoral programs, nine master's programs and 13 certificate programs all of which are designed to be responsive to both community and global needs. Seven of the college's graduate programs were listed in the U.S. News and World Report "Top 100 Rankings" as part of their annual "Best Graduate Schools" report for 2013.

COHPA's mission is to educate leaders for a global and diverse society by conducting transformational research, creating partnerships, and advocating policy changes that improve the health and welfare of the community.

The college strives to provide graduate education that exceeds national standards while meeting the research and service needs of the local community. Departments and schools within the college provide professional education, emphasizing the relationship between policy, practice and the importance of research. By focusing on the development of critical thinking and problem-solving skills, students receive an education that prepares them for a lifetime of professional and personal achievement.

The College of Health and Public Affairs Office of Graduate Services is dedicated exclusively to supporting graduate education in the college. Its mission is to assist departments and graduate program coordinators in providing high quality education to graduate students by facilitating leadership, curriculum development and graduate academic support services in the college. It serves as a liaison between the programs in the college and the university's College of Graduate Studies and serves the needs of graduate students by providing a centralized source for support and advisement, record keeping, registration and graduation. Questions concerning graduate policies or processes for graduate programs in COHPA should be directed to the COHPA Office of Graduate Services:

HPA 1, Room 221
(407)823-4025
cohpagraduate@ucf.edu

The college strongly encourages applications from minority and diverse populations. Race, national origin and gender are not used in the evaluation of students for admission into graduate and professional programs.

College Administration

- Michael Frumkin, Dean
- Ross Wolf, Associate Dean
- Dawn Oetjen, Associate Dean
- Melvin Rogers, Associate Dean

- Thomas Wan, Associate Dean
- Lynette Feder, Assistant Dean

31 Programs

Certificate

- Aging Studies Graduate Certificate
- Anatomical Sciences Graduate Certificate
- Corrections Leadership Graduate Certificate
- Crime Analysis Graduate Certificate
- Criminal Justice Executive Graduate Certificate
- Emergency Management and Homeland Security Graduate Certificate
- Fundraising Graduate Certificate
- Global Health and Public Affairs Graduate Certificate
- Health Information Administration Graduate Certificate
- Juvenile Justice Leadership Graduate Certificate
- Medical Speech-Language Pathology Graduate Certificate
- Military Social Work Graduate Certificate
- Nonprofit Management Graduate Certificate
    - Out of State Cohort
- Police Leadership Graduate Certificate
- Public Administration Graduate Certificate
- Public Budgeting and Finance Graduate Certificate
- Research Administration Graduate Certificate
- Social Work Administration Graduate Certificate
- Urban and Regional Planning Graduate Certificate

Doctoral

- Criminal Justice PhD
- Physical Therapy DPT

Doctoral continued...

- Public Affairs PhD
    - Criminal Justice
    - Governance and Policy Research
    - Health Services Management and Research
    - Public Administration
    - Public Administration MPA Dual Degree
    - Social Work

Master

- Communication Sciences and Disorders MA
    - Accelerated BA/BS to MA
    - Communication Sciences and Disorders Consortium
- Criminal Justice MS
    - Public Administration MPA Dual Degree
- Health Administration MHA
    - Executive Health Services Administration
    - Health Services Administration
- Health Care Informatics MS, Professional Science Master's
- Nonprofit Management MNM
    - Out of State Cohort
    - Public Administration MPA Dual Degree
- Public Administration MPA
    - Criminal Justice MS Dual Degree
    - Nonprofit Management MNM Dual Degree
- Research Administration MRA
- Social Work MSW
    - Online Part-Time
    - Online Part-Time Advanced Standing
    - Orlando Full-Time
    - Orlando Full-Time Advanced Standing
    - Orlando Part-Time
    - Orlando Part-Time Advanced Standing
- Urban and Regional Planning MS

College of Medicine

Web Address:	http://med.ucf.edu
Web Addresses:	http://med.ucf.edu/academics/ http://med.ucf.edu/biomed/
Email:	mdadmissions@ucf.edu

The University of Central Florida College of Medicine educates and inspires individuals to be exemplary physicians and scientists, leaders in medicine, scholars in discovery, and adopters of innovative technology to improve the health and well-being of all. Our patient-centered mission is achieved by outstanding medical care and services, groundbreaking research, and leading edge medical and biomedical education in an environment enriched by diversity.

The College of Medicine will be the nation's premier twenty-first century college of medicinea national leader in education, research, and patient care, recognized for supporting and empowering its students and faculty to realize their passion for discovery, healing, health, and life, and for its ability to create partnerships to transform medical education and healthcare.

The UCF MD program allows students to prepare for careers in every discipline of medicine and to focus on an individualized area of study or research. Your passion will become our passion. The MD program learning experience at the University of Central Florida is a unique and exciting blend of state-of-the-art technology, virtual patients, clinical and laboratory experiences, research, facilitator-directed small group sessions, and interactive didactic lectures.

The Burnett School of Biomedical Sciences within the College of Medicine is helping the College to be a research-intensive medical school where cutting-edge medical research spans the entire spectrum from bench to bedside, combining clinical practice with advanced research programs to drive the future of healthcare in Central Florida. The Burnett School offers masters, and doctoral programs in Biomedical Sciences, Biotechnology, Medical Laboratory Sciences, and Molecular Biology and Microbiology.

College Administration

- Deborah German, Dean
- Richard Peppler, Associate Dean

Burnett School of Biomedical Sciences

The mission of the Burnett School of Biomedical Sciences in the College of Medicine is to build nationally recognized biomedical education and research enterprise.

The major discoveries of the second half of the twentieth century are sure to revolutionize the practices in medicine, agriculture and industry in general in the first half of the twenty-first century. This truly may become the "Century of Biology." To fully participate in these unprecedented advances, UCF's School of Biomedical Sciences will hire 34 new faculty members over the next five years.

Construction of a new 103,000-square-foot Burnett Biomedical Science building is expected to start shortly to provide a contiguous space for the biomedical sciences researchers to optimize synergistic interactions and the use of shared core equipment and facilities.

In addition, the school is forming active partnerships with other units such as theCollege of Optics and Photonicsand theNanoscience Technology Centerto build interdisciplinary research and education programs in the innovative applications of photonics and nanoscience to biomedical problems. Faculty members in the school are engaged in research at the cutting edge to find solutions to major biomedical problems.

The school recently updated its undergraduate curriculum to better prepare students for health professions and graduate studies in biomedical sciences. The school also provides pre-health advisement for UCF students to prepare them for entry into health professional schools.

The school has revised the MS program in Molecular Biology and Microbiology. The Medical Laboratory Science Program prepares tomorrow's medical laboratory technologists. The school has initiated an accelerated BS/MS program in biotechnology to help provide a skilled workforce for the emerging biotechnology industry. The interdisciplinary PhD program in Biomedical Sciences prepares tomorrow's biomedical scientists.

The school is committed to excellence in undergraduate and graduate education and to building innovative interdisciplinary research programs to discover solutions for important biomedical problems and to provide a highly creative environment to foster its educational programs.

School Administration

- Griff Parks, Director

4 Programs

Doctoral

- Biomedical Sciences PhD
  - MD / PhD
- Doctor of Medicine MD

Doctoral continued...

- Biomedical Sciences MS
  - Cancer Biology
  - Genetic Counseling
  - Infectious Disease
  - Integrated Medical Sciences
  - Metabolic and Cardiovascular Sciences
  - Neuroscience

Master

- Biotechnology MS
  - Professional Science Master's

College of Nursing

Web Address:	http://www.nursing.ucf.edu/
Email:	gradnurse@ucf.edu

The College of Nursing is thetwelfth college to be established at the university. Educating nurses since 1979 first as a department then as a school and now as a college and offering a bachelors, masters and two doctorate degree programs. The college has recently moved adjacent to UCFs main campus to a university-owned building in Central Florida Research Park. Occupying three floors of University Towers, the new facility features modern offices and classrooms, a student learning center, computer labs, and several teaching labs for simulation and skill-building.

The college has achieved prominence as an innovator in nursing education, responding to a changing population with complex health care needs. The faculty of the college values access to education and embrace opportunities to utilize advanced technology, innovation and creativity to provide graduates with the highest quality education at the baccalaureate, master's and doctoral levels.

Today's challenging health care environment provides unique opportunities for nursing. Nurses are needed more than ever to provide evidence-based patient care, serve in leadership roles, teach, engage in research, and in influence policy.

Our Mission

The mission of the College of Nursing at the University of Central Florida is to offer high-quality undergraduate and graduate academic programs designed to prepare nurses to practice in a continuously changing health care environment; to foster quality care and patient safety; to provide innovative access to education and research; to develop nurse clinicians, leaders and scholars who promote the health of diverse populations in local, national and global communities; and to touch lives, lead by example and make a difference through clinical excellence, research and community service.

Our Values

Integrity, scholarship, community, creativity, and excellence are the core values that guide our conduct, performance, and decisions. These values have been incorporated into a UCF Creed that describes behavior for members of the UCF community, including faculty, staff and students of the College of Nursing.

- Integrity: We practice and defend academic and personal honesty.
- Scholarship: We cherish and honor learning as a fundamental purpose of our membership in the UCF community.
- Community: We promote an open and supportive college environment by respecting the rights and contributions of every individual.
- Creativity: We use our talents to enrich the human experience.
- Excellence: We strive toward the highest standards of performance in any endeavor we undertake.

Our Vision for our Future

As a thriving member of Orlandos medical city and Central Floridas health care community, the College of Nursing will be one of the nations preeminent leaders in nursing education, practice and research. The college will establish partnerships with some of the nations most innovative leaders to model new best practices that harness evolving technology and ensure quality patient outcomes.

- We will create a state-of-the-art educational facility that cultivates a learning environment that promotes and develops the health and well-being of our students and faculty to produce a sustainable workforce in our communities.
- Our proximity to and partnership with leaders in the biomedical and health care industries will provide countless opportunities for collaborative research and clinical practice.
- We will offer the benefits of a large, metropolitan research university while providing individual attention and maintaining a sense of community for our students and faculty.
- Students and faculty will continue to thrive in a trusting environment where diversity is celebrated and individual ideas and talents are mutually respected and supported.
- Students, graduates and faculty will continue to shape the future of health care locally, nationally and globally by delivering health care services to individuals and communities, influencing health care policy, and contributing to science through their own nursing research.
- We will achieve our vision through commitment to sustainability, community partnerships, innovative teaching methods, and service learning; and by fostering excellence in teaching, research, service and practice.

College Administration

- Mary Lou Sole, Dean
- Susan Chase, Associate Dean

11 Programs

Certificate

- Adult-Gerontology Acute Care Nurse Practitioner Graduate Certificate
- Adult-Gerontology Clinical Nurse Specialist Graduate Certificate
- Adult-Gerontology Primary Care Nurse Practitioner Graduate Certificate
- Clinical Nurse Leader Graduate Certificate
- Family Nurse Practitioner Graduate Certificate
- Health Care Simulation Graduate Certificate
- Nursing Education Graduate Certificate

Doctoral

- Nursing PhD
    - BSN to PhD

Doctoral continued...

- Nursing Practice DNP
  - Adult-Gerontology Acute Care Nurse Practitioner
  - Adult-Gerontology Clinical Nurse Specialist
  - Adult-Gerontology Primary Care Nurse Practitioner
  - Advanced Practice DNP
  - Executive
  - Family Nurse Practitioner

Master

- Nursing MSN
  - Adult-Gerontology Acute Care Nurse Practitioner
  - Adult-Gerontology Primary Care Nurse Practitioner
  - Family Nurse Practitioner
  - Leadership and Management
  - Nurse Educator
  - Nursing and Health Care Simulation

Nondegree

- Nursing Nondegree

Rosen College of Hospitality Management

Web Address:	http://www.hospitality.ucf.edu/
Web Addresses:	http://hospitality.ucf.edu/students/prospective-students/graduate-admissions/
Email:	hospitality@ucf.edu

Since 1983, the UCF Rosen College of Hospitality Management has established a high standard of professionalism, leadership, and service excellence that is recognized around the world. The educational mission of the college is to develop future generations of global hospitality and tourism leaders serving all industry segments through innovative academic programs, cutting-edge research, and strong industry and community partnerships.

The hospitality industry has changed dramatically over the past 20 years as has hospitality education. The Rosen College has positioned itself to be the preferred educational institution for individuals who wish to learn advanced technical and managerial skills in hospitality and tourism management. Whether traditional or more 'mature', industry novice or executive, and domestic or international, the Rosen College has developed general and niche programs to meet the specific needs of several diverse 'student' segments. The Orlando area itself enhances each degree's value proposition by providing a living laboratory to study and experience a broad spectrum of products and services.

The Master's in Hospitality and Tourism Management is not intended as a first entry point to the industry. The master's program enables individuals to build upon their strengths and interests, broaden their knowledge of the industry, sharpen management skills, and incorporate their professional and extracurricular experiences in an interactive learning environment. The program schedule is flexible to enable participation on a full-time orpart-time basis with courses available in face-to-face, mixed or fully-online mode.

The college houses the Dick Pope Sr. Institute for Tourism Studies, which was created and initially funded by the travel and tourism industry in Central Florida. The institute conducts proprietary and public domain research for local, domestic, and international clients. The institute is also involved in a variety of activities to educate the public at large about the economic and social welfare contributions of the tourism industry, and further severs as an advocate for the industry..

Distinctive Benefits

- The opportunity to engage with our world-class faculty who represent 17 countries, and whose combinedexpertisespans all facets of hospitality, tourism, event and destination management.
- The ability to satisfy industry sector-specific and discipline-specific curiosities through a variety of core and elective courses.

- Participate in research to investigate the unknown and develop industry applications through the Dick Pope Sr. Institute for Tourism Studies and the World Tourism Organization depository library.
- Network and collaborate with top industry partners and academic leaders, just around the corner and around the world.

College Administration

- Abraham Pizam, Dean
- Robertico Croes,Associate Dean
- Youcheng Wang, Associate Dean

4 Programs

Certificate

- Destination Marketing and Management Graduate Certificate
- Event Management Graduate Certificate

Doctoral

- Hospitality Management PhD

Master

- Hospitality and Tourism Management MS
  - MD

College of Graduate Studies

Web Address:	http://www.graduate.ucf.edu
Web Addresses:	http://www.students.graduate.ucf.edu
Email:	graduate@ucf.edu

Interdisciplinary Programs

The interdisciplinary nature of graduate study and research has a long-standing presence in UCF graduate education. Faculty and students reach beyond organizational structures to engage with others who share similar research interests yet can provide complementary expertise and perspective to the research work. The complexities of many research questions require such multidisciplinary, organic configurations of researchers, and the need to prepare our graduate students for future research environments obligates the College of Graduate Studies to promote interdisciplinary education at UCF.

The College of Graduate Studies houses interdisciplinary graduate programs in geographic information systems, interdisciplinary studies for master's students, modeling and simulation, and nanotechnology.

Geographic Information Systems Graduate Certificate

Program Director: John Walker, PhD

Graduate Web Address: Geographic Information Systems

Email:

The Geographic Information Systems (GIS) Graduate Certificate provides students with the interdisciplinary background in geography and the technical skills in the application of GIS. The certificate will enhance the student's ability to understand, visual and analyze geospatial data to address questions related to place and spatial interactions.

Interdisciplinary Studies Program

Program Director: John Weishampel, PhD

Graduate Web Address:http://www.graduate.ucf.edu/IndisciplinaryStudies/

Email:gradids@ucf.edu

The Master of Arts and Master of Science in Interdisciplinary Studies Programs are excellent preparation for a number of endeavors in the twenty-first century. They allow students the flexibility to develop an individually tailored plan of study and the choice of thesis or nonthesis option.

Students in these programs share a commitment to intellectual exploration in graduate-level education and seek enrichment and goals that could not be achieved through the study of a single discipline.

Modeling and Simulation Program

Program Director: Joseph LaViola, Jr., PhD

Graduate Web Address:http://www.graduate.ucf.edu/ModelingandSimulation/

Email:modsim@ucf.edu

UCF is a world leader in Modeling and Simulation graduate education, and its Modeling and Simulation Program has a history of academic excellence in the field of modeling, simulation and training. The program offers rigorous academic Master of Science and Doctor of Philosophy curricula that ensure a strong core yet provide students the flexibility to shape their own education.

The Graduate Certificate in Modeling and Simulation of Technical Systems provides students with knowledge in modeling and simulation fundamentals, including modeling techniques and applications, with special emphasis on modeling and simulation in testing and evaluation. This program is delivered electronically via distance education.

Nanotechnology Program

Program Director: Qun Huo, PhD

Graduate Web Address:http://psm.nanoscience.ucf.edu/

Email:Qun.Huo@ucf.edu

The UCFNanoScience Technology Center offers the Nanotechnology MS Program and the Professional Science Master's (PSM)in Nanotechnology Program.

The Nanotechnology MS provides students withscientific knowledge and research training in nanoscience and nanotechnology. The program prepares students for seeking employment in industry and academia involved in nanotechnology research, product development and commercialization, or to pursue advanced PhD degrees in related areas.

The Nanotechnology PSM provides students with scientific education in nanotechnology and professional training in business and technology entrepreneurship. The program prepares students with necessary skills for seeking employment in industry and academia involved in nanotechnology research, product development and commercialization.

10 Programs

Certificate

- Geographic Information Systems Graduate Certificate
- Modeling and Simulation of Behavioral Cybersecurity Graduate Certificate
- Modeling and Simulation of Technical Systems Graduate Certificate
    - In State Cohort
    - Out of State Cohort

Doctoral

- Modeling and Simulation PhD

Master

- Conservation Biology, Professional Science Master's

Master continued...

- Interdisciplinary Studies MA
    - Nonthesis
    - Thesis
- Interdisciplinary Studies MS

    - Nonthesis
    - Thesis
- Modeling and Simulation MS
    - Professional Science Master's
- Nanotechnology MS
- Nanotechnology Professional Science Master's

Modeling and Simulation Program

Web Address:	http://www.ist.ucf.edu/grad/index.html
Web Addresses:	http://www.ist.ucf.edu/grad/index.html
Email:	modsim@ucf.edu

UCF offers interdisciplinary graduate studies in modeling and simulation leading to master's and PhD degrees. The program provides students with a core body of knowledge in the fundamentals of modeling and simulation including discrete and continuous simulation, interactive simulation, quantitative aspects of modeling and simulation, human computer interaction, human systems and human factors, computer visualization, simulation in healthcare, and simulation management.

Program Administration

- J. Peter Kincaid, PhD, Graduate Program Director
- Paul Weigand, PhD, Graduate Program Director

10 Programs

Certificate

- Geographic Information Systems Graduate Certificate
- Modeling and Simulation of Behavioral Cybersecurity Graduate Certificate
- Modeling and Simulation of Technical Systems Graduate Certificate
    - In State Cohort
    - Out of State Cohort

Doctoral

- Modeling and Simulation PhD

Master

- Conservation Biology, Professional Science Master's

Master continued...

- Interdisciplinary Studies MA
    - Nonthesis
    - Thesis
- Interdisciplinary Studies MS
    - Nonthesis
    - Thesis
- Modeling and Simulation MS
    - Professional Science Master's
- Nanotechnology MS
- Nanotechnology Professional Science Master's

Policies

Overview

The policies in this section of the *Graduate Catalog* are minimum university-wide standards for graduate programs. The Graduate Programssection in this catalog describes additional requirements for each graduate program, andthe individual college and program descriptions in the Colleges and Special Programs section may discuss specific college requirements.Also, student handbooks for each of the graduate programsprovide additional policies and proceduresthat are specific to each graduate program.

General University Policies

Classroom Responsibility

Students are responsible for maintaining classroom decorum appropriate to the educational environment. When the conduct of a student or group of students varies from acceptable standards and becomes disruptive to normal classroom procedures, the instructor has the authority to remove the offending party from the room and refer the student to the Office of Student Conduct (SRC 155) for disciplinary action.

Student Conduct

Students are subject to federal and state laws and local ordinances as well as regulations prescribed by the University of Central Florida and the Florida Board of Governors. The breach or violation of any of these laws or regulations may result in disciplinary action. Behavioral breaches of state law, UCF requirements, or program expectations are grounds for dismissal from the program of study and the university. Detailed conduct regulations and procedures are presented in *The Golden Rule* (www.goldenrule.sdes.ucf.edu).

A person applying for admission to UCF who has declared an adjudication of a violation of conduct policies at a previous college or university or a violation of the law that resulted in probation, community service, a jail sentence, or the revocation or suspension of their driver's license (including traffic violations that resulted in a fine of $200 or more) will have circumstances of the case reviewed by the Office of Student Conduct (SRC 155) to consider eligibility for admission.

Credit Hour Policy

Credit hour: A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than

(1) One hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately fifteen weeks for one semester or the equivalent amount of work over a different amount of time; or

(2) At least an equivalent amount of work as required in paragraph (1) of this definition for academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

Religious Observances

It is the policy of the University of Central Florida to reasonably accommodate the religious observances, practices, and beliefs of individuals in regard to admissions, class attendance, and the scheduling of examinations and work assignments. A student who desires to observe a religious holy day of his or her religious faith will notify all of his/her instructors and be excused from classes to observe the religious holy day.

The student will be held responsible for any material covered during the excused absence, but will be permitted a reasonable amount of time to complete any work missed. Where practicable, major examinations, major assignments, and university ceremonies will not be scheduled on a major religious holy day.

Students who are absent from academic or social activities because of religious observances will not be penalized. A student who believes that he/she has been unreasonably denied an educational benefit due to his/her religious belief or practices may seek redress under the Student Grievance Procedure, located in *The Golden Rule*.

University Closings

In the event of some extraordinary event (such as a natural disaster or prolonged power outage), the President shall determine whether it is necessary to cancel classes and approve administrative leave for employees in affected areas. Department chairs, in consultation with their faculty and with the college dean, shall determine the effect on final examinations and other academic matters.

Non-Discrimination Policy

The University of Central Florida does not unlawfully discriminate in any of its education or employment programs and activities on the basis of an individuals race, color, ethnicity, national origin, religion (or non-religion), age, genetic information, sex (including pregnancy and parental status), gender identity or expression, sexual orientation, marital status, physical or mental disability (including learning and intellectual disabilities), political affiliations, prior conviction of a crime, protected veterans status or membership in any other protected classes as set forth in state or federal law. The University prohibits discrimination based on these protected classes, which includes the prohibition of discriminatory harassment, sexual assault, sexual exploitation, relationship violence, stalking, sexual or gender-based harassment, and retaliation against a person for the good faith reporting of any of these forms of conduct or participation in or party to any investigation or proceeding related to a report of these forms of conduct.

Discriminatory harassment consists of verbal, physical, electronic or other conduct based upon an individuals protected class as set forth above that interferes with that individuals educational or employment opportunities, participation in a University program or activity, or receipt of legitimately-requested services under either *Hostile Environment Harassment* or *Quid Pro Quo Harassment*. *Hostile Environment Harassment* is discriminatory harassment that is so severe, persistent or pervasive that it unreasonably interferes with, limits, deprives, or alters the conditions of education (e.g., admission, academic standing, grades, assignment); employment (e.g., hiring, advancement, assignment); or participation in a University program or activity (e.g., campus housing), when viewed from both a subjective and objective perspective. *Quid Pro Quo Harassment* is discriminatory harassment where submission to or rejection of unwelcome conduct is used, explicitly or implicitly, as the basis for decisions affecting an individuals education; employment; or participation in a University program or activity.

Sexual harassment is any unwelcome sexual advance, request for sexual favors, or other unwanted conduct of a sexual nature, whether verbal, non-verbal, graphic, physical, or otherwise, when the conditions for *Hostile Environment Harassment* or *Quid Pro Quo Harassment* are present. Gender-based harassment includes harassment based on gender, sexual orientation, gender identity, or gender expression, which may include acts of aggression, intimidation, or hostility, whether verbal or non-verbal, graphic, physical, or otherwise, even if the acts do not involve conduct of a sexual nature, when the conditions for *Hostile Environment Harassment* or *Quid Pro Quo Harassment* are present. Sexual assault consists of sexual contact and/or sexual intercourse that occurs without consent. Sexual exploitation is purposely or knowingly doing or attempting to do any of the following: recording or photographing private sexual activity and/or a persons intimate parts (including genitalia, groin, breasts or buttocks) without consent; disseminating or posting images of private sexual activity and/or a persons intimate parts (including genitalia, groin, breasts or buttocks) without consent; allowing third parties to observe private sexual activity from a hidden location (e.g., closet) or through electronic means (e.g., Skype or livestreaming of images); subjecting another person to human trafficking; or exposing another person to a sexually transmitted infection or virus without the others knowledge. Relationship violence includes any act of violence or threatened act of violence that occurs between individuals who are involved or have been involved in a sexual, dating, spousal, domestic, or other intimate relationship. Stalking occurs when a person engages in a course of conduct directed at a specific person under circumstances that

would cause a reasonable person to fear for the persons safety or the safety of others, or to experience substantial emotional distress.

A student or employee determined by the University to have committed an act of discrimination as described above is subject to disciplinary action, up to and including permanent separation from the University. Third Parties who commit these acts may have their relationships with the University terminated and/or their privileges of being on University premises withdrawn.

Most University faculty and staff (including professors, lecturers, instructors, academic advisors, trainers coaches, and resident assistants) are not confidential employees and are required to immediately report to the Universitys Title IX Coordinator (Dawn Welkie) all relevant details (obtained directly or indirectly) about an incident of sexual assault, relationship violence and/or stalking that involves any student. Confidential employees (including Health Services employees, Counseling and Mental Health Services employees, Ombuds Office employees, Student Legal Services employees and Victim Services employees) are not required to make these reports and will not disclose information without the permission of the student (subject to limited exceptions). More information about UCFs resources and reporting options for individuals who have experienced sexual harassment (including sexual violence) and related policies can be found at *http://shield.ucf.edu*.

Employees, students, contractors, vendors, visitors, guests or third parties may obtain further information on this policy, including grievance procedures, from the Office of Equal Opportunity and Affirmative Action Programs (EOAA). Nancy Myers (EOAA Director) is responsible for the Universitys response to all forms of discrimination based on a protected class, and Dawn Welkie (EOAA Assistant Director) is the Title IX Coordinator who is responsible for the Universitys response to reports of sex discrimination. For more information about EOAA, please visit EOAAs website at *www.eeo.ucf.edu* or call 407-UCF-1EEO.

Sexual Harassment Policy

The University of Central Florida values diversity in the campus community. Accordingly, discrimination on the basis of race, sex, national origin, religion, age, disability, marital status, parental status, veteran's status, sexual orientation, or genetic information is prohibited.

Sexual harassment, a form of sex discrimination, is defined as unwelcome sexual advances, requests for sexual favors, or verbal or physical conduct of a sexual nature when:

- Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or enrollment;
- Submission to or rejection of such conduct by an individual is used as the basis for employment or enrollment decisions affecting such individual; or
- Such conduct has the purpose or effect of substantially interfering with an individual's work performance or enrollment, or creating an intimidating, hostile, or offensive working or academic environment.

Sexual harassment is strictly prohibited. Occurrences will be dealt with in accordance with the guidelines above and university rules. Employees, students, or applicants for employment or admission may obtain further information on this policy, including grievance procedures, from the Equity Coordinator. The Director of the Office of Equal Opportunity and Affirmative Action Programs is the campus Equity Coordinator responsible for concerns in all areas of discrimination. The office is located on the main campus, in Millican Hall 330, Orlando, FL 32816-0030. The phone number is 407-UCF-1EEO. Policies and guidelines are available online at http://www.eeo.ucf.edu.

Golden Rule

The *Golden Rule* is the university's policy regarding nonacademic discipline of students and limited academic grievance procedures for graduate (grade appeals in individual courses, not including thesis and dissertation courses) and undergraduate students. Information concerning *The Golden Rule* can be found at www.goldenrule.sdes.ucf.edu/. Section 11, "Student Academic Behavior," addresses appeals of graduate program actions or decisions.

University Notices

This catalog contains a description of the various policies, academic programs, degree requirements, course offerings, and related matters intended to be in effect at the University of Central Florida during the 2014 - 2015 academic year. However, any matter described in this catalog is subject to change. As a result, statements in this Graduate Catalog may not be regarded in the nature of binding obligations on the institution or the State of Florida, or as an irrevocable commitment from the University to the reader.

Drug-Free Workplace/Drug-Free Schools Policy Statement

Standards of conduct and disciplinary sanctions will be imposed for the unlawful possession, misuse or distribution of illicit drugs and alcohol by UCF students and employees on UCF property or as part of any of its activities. The unlawful manufacture, distribution, dispensation, possession or misuse of a controlled substance, prescription medication or the unlawful possession and use of alcohol is harmful and prohibited in and on UCF owned and controlled property or as part of any of its activities. Any UCF employee or student determined to have violated this policy shall be subject to disciplinary action for misconduct, action which may include termination/expulsion and referral for prosecution. No employee/student is to report to work/class or attend any university activity while under the influence of illegal drugs or alcohol. Violation of these policies by an employee/student will be reason for evaluation/treatment for drug/alcohol disorder and/or for disciplinary action up to and including termination/expulsion and/or referral for prosecution consistent with local, state and federal law.

Academic Behavior Standards

The University of Central Florida is committed to a policy of honesty in academic affairs. Examples of conduct for which students may be subject to academic and/or disciplinary penalties including expulsion are:

- Cheating, whereby non-permissible written, visual, or oral assistance including that obtained from another student is utilized on examinations, course assignments, or projects. The unauthorized possession or use of examination or course related material may also constitute cheating.
- Plagiarism, whereby another's work is deliberately used or appropriated without any indication of the source, thereby attempting to convey the impression that such work is the student's own. Any student failing to properly credit ideas or materials taken from another has plagiarized.
- Unauthorized assistance: communication to another through written, visual, or oral means. The presentation of material which has not been studied or learned, but rather was obtained solely through someone else's efforts and used as part of an examination, course assignment or project. The unauthorized possession or use of examination or course related material may also constitute cheating.
- Commercial Use of Academic Material: Selling notes, handouts, etc. without authorization or using them for any commercial purpose without the express written permission of the university and the Instructor is a violation of this rule.

NOTE: A student who has assisted another in any of the aforementioned breach of standards shall be considered equally culpable. In cases of cheating or plagiarism, the instructor may take appropriate academic action ranging from loss of credit for a specific assignment, examination, or project to removal from the course with a grade of "F." Additionally, the instructor may request disciplinary action through the Office of Student Rights and Responsibilities as outlined in *The Golden Rule*.

Student Use of Technology

The University of Central Florida expects all students to have ready access to a personal computer and software appropriate to his or her field of study. Students can meet this expectation by purchasing or leasing a computer, sharing a computer with family or roommates, or using a UCF computer lab.

All UCF students should expect to use a personal computer in many university activities, including course work, accessing library information, registering for classes, and e-mailing correspondence to instructors or fellow students. In addition, many UCF courses require the use of the Internet.

The University of Central Florida has developed one of the nation's most advanced campus technology environments, and all UCF students are provided free e-mail accounts and Internet access. Students wishing to acquire a personal computer are strongly advised to consider a laptop equipped with a wireless networking card. Recommended configurations can be found on the university's website at www.cstore.ucf.edu

Student Responsibility for University Communication

UCF uses e-mail as the official means of notifying students of important university business and academic information concerning registration, deadlines, financial assistance, scholarships, student accounts (including tuition and fees), academic progress and problems, and many other critical items for satisfactory completion of a UCF degree program. The university sends all business-related and academic messages to a students Knights E-mail address to ensure that there is one repository for that information. Every student must register for, and maintain a Knights E-mail account at http://www.knightsemail.ucf.edu and check it regularly to avoid missing important and critical information from the university. Any difficulty with establishing an account or with accessing an established account must be resolved through the UCF Computer Services Service Desk so that a student receives all important messages.

Additionally, each student must have an up-to-date emergency e-mail address and cell phone number by which to be reached in case of a crisis on campus. This emergency contact information will be used only for emergency purposes. Also, both permanent and local mailing addresses must be on record, so that any physical documents that must be mailed can be delivered.

It is critical that students maintain and regularly check their Knights E-mail account for official announcements and notifications. Communications sent to the Knights E-Mail address on record will be deemed adequate notice for all university communication, include issues related to academics, finances, registration, parking, and all other matters. The University does not accept responsibility if official communication fails to reach a student who has not registered for, or maintained and checked on a regular basis, their Knights E-Mail account. Please ensure that this information is current and that any changes in contact information are made online through the myUCF portal at https://my.ucf.edu/.

Complaint Policy

The University of Central Florida supports the right of students to file grievances, lodge complaints, and make appeals in a safe environment free of fear, retaliation, or other adverse consequence. The university has a number of offices and committees that are responsible for implementing the institution's established procedures for addressing written academic and nonacademic student complaints.

In most cases, the recommended strategy for complaints of any nature is to ask the concerned individual to first contact the person or office most directly connected to the issue, unless there are compelling reasons not to do so. If the concerned individual does not want to contact a faculty or staff member directly, he or she begins with the next highest level of authority, which typically is the department chair or director. If the problem or complaint is unresolved or the individual is not satisfied with the resolution, he or she may file a written grievance or appeal. Specific procedures are included in specific sections of this catalog and the Golden Rule.

Records

Student records submitted to the university become the property of the university and cannot be returned to or copied for the student or released to a third party. Student records are digitally scanned.

Family Educational Rights and Privacy Act (FERPA)

The procedures for protecting the confidentiality of student records are based on state regulations and the federal Family Educational Rights and Privacy Act of 1974. FERPA affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student's education records within 30 days of the day the University receives a written request for access. Students should submit to the University Registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they desire to inspect. The Ffor access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed;
2. The rights to request the amendment of the student's education records that the student believes are inaccurate or misleading. The student may ask the University to amend a record that he or she believes is inaccurate or misleading. The student should write the University official responsible for the record, clearly identify the part of the record to be changed, and specify why the current record is inaccurate or misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing;
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception that permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility; and
4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by a State University to comply with the requirements of FERPA. The name and address of the office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington DC, 20202-4605.

Directory Info

FERPA authorizes the University to classify certain information concerning students as "directory information," which means that it may be released to anyone upon request. In accordance with Florida Statutes Section 228.093, the University is required to release student directory information to independent vendors upon request. Directory information at UCF includes

- name,
- current mailing address,
- telephone number,
- date of birth,
- major field of study,
- dates of attendance,
- enrollment status,
- degrees and awards received,
- participation in officially registered activities and sports
- athletes' height and weight.

All other student information will be released in accordance with FERPA; in most cases this requires the student's prior written and signed consent. The University extends to students the opportunity to withhold any or all information, including directory information. Students can do this online at https://my.ucf.edu > Student Self Service > Student Center > Personal Information > FERPA/Directory Restriction or complete the Directory Disclosure/Release Authorization form available at the Registrar's Office (Millican Hall 161) or at http://www.registrar.sdes.ucf.edu, requesting that this information be withheld. The Golden Rule outlines the University procedures for confidentiality. For additional information describing FERPA policy, go to the Department of Education Family Policy Compliance Office website.

Higher Education Act

Lists, descriptions, and sources of information required for disclosure under the Higher Education Act may be obtained from the Registrar's Office (Millican Hall 161) or from the Registrar's website (Higher Education Act).

General Graduate Policies

Student Responsibility to Keep Informed

It is the student's responsibility to keep informed of all rules, regulations, and procedures required for graduate studies. Graduate program regulations will not be waived or exceptions granted because students plead ignorance of the regulations or claim failure of the adviser to keep them informed.

Student Responsibility for University Communication

Please refer to the General University Policy regarding student responsibility for communication.

University Admission Standards

The university seeks to enroll students of the highest quality. In addition, the university encourages applications from a diverse population and values diversity in our graduate programs.
Admissions recommendations are made by the academic programs on the basis of a wide variety of information submitted as part of the student's application package. Admissions committees consider factors such as students' academic qualifications, research and work experiences, professional goals and skills, match with program objectives and professional qualifications, the number of openings available in the program, and the resources available to support the student. An applicant's character, integrity and general fitness to practice a particular profession may also be considered in the admission process. Admission is limited and, in most programs, not all qualified students can be admitted. While UCF supports students obtaining multiple UCF degrees at different levels or in different programs, students who have received a degree in a UCF graduate program are not eligible for admission to the same program, even if it has tracks that have substantively different curricula.

In general, graduate admission to the university requires that students must have obtained (prior to the start of the term for which the student is admitted) the equivalent of a baccalaureate degree from a regionally accredited institution or from a recognized foreign institution. Students without the equivalent of a baccalaureate degree from a regionally accredited institution or a recognized foreign institution are not admitted to graduate degree programs, graduate certificate programs, or graduate nondegree status. All applicants for graduate admission must submit official transcripts for all academic work. In addition to the above, all admitted students must submit evidence to document their attainment of the following minimum requirements.

Minimum UCF Requirement

(1) This regulation applies to all students admitted to graduate programs.

(2) Each admitted student to a graduate degree program or to a postbaccalaureate professional program must meet the following minimum requirements:

> (a) Earned a bachelors degree or equivalent from a regionally accredited U.S. institution or its equivalent from a foreign institution AND
>
> (b) Earned a 3.0 GPA (or equivalent) or better in all work attempted while registered as an undergraduate student working for a baccalaureate degree, OR
>
> (c) Earned a 3.0 GPA (or equivalent) or better in all work attempted while registered as an upper division student working for a baccalaureate degree. OR

(d) Earned a previous graduate degree or professional degree or equivalent from a regionally accredited U.S. institution or its equivalent from a foreign institution in a field related to the discipline of the program to which the applicant is applying.

(3) Additionally, all applicants to doctoral programs must meet the following specific requirements:

(a) Each applicant to a doctoral degree program shall present scores that are acceptable for the program to which the student is applying on the Graduate Record Examination (verbal, quantitative, and writing), or an equivalent measure on the GMAT, whichever is deemed most appropriate to the program. Students, including international students, who already have a graduate degree obtained from a regionally accredited institution in the same or in a related area are not required to take the Graduate Record Examination or GMAT unless it is required by the program.

(b) In addition, doctoral applicants must submit three letters of recommendation, a resume or a curriculum vita, and a written essay.

(c) The submitted materials must be used in the context of a holistic credential review process.

(d) Each doctoral program may determine other requirements for admission, consistent with their mission and purpose. Any additional admissions requirements so imposed by doctoral programs must be published annually in the Graduate Catalog and on the website of the doctoral program; further, such requirements shall be reviewed and updated annually.

(e) These requirements shall not include preferences in the admissions process for applicants on the basis of any category protected by law.

(4) Additionally, all applicants to masters programs must meet the following specific requirements:

(a) A score on standardized exams such as the GRE or GMAT is not required by the university for admission to a masters degree program, although individual programs may still require the exams for admissions purposes.

(b) Each masters program may determine other requirements for admission, consistent with their mission and purpose. Any additional admissions requirements so imposed by masters programs must be published annually in the Graduate Catalog and on the website of the masters program; further, such requirements shall be reviewed and updated annually.

(c) These requirements shall not include preferences in the admissions process for applicants on the basis of any category protected by law.

(d) For international students in masters programs that do not require a GRE or GMAT, a course-by-course evaluation of the students official transcript must be submitted by a credential evaluation service recommended by UCF that shows a GPA equivalent from an earned degree equivalent to a U.S. bachelors degree.

(5) In addition to the above requirements, international students must show proficiency in written and spoken English by

(a) proving they are from a country where English is the only official language; or

(b) establishing that a prior bachelors, masters or doctoral degree was earned from a regionally accredited college or university in the United States; or

(c) establishing that a prior bachelors, masters or doctoral degree was earned from a country where English is the only official language, or a university at which English is the only official language of instruction; or

(d) submitting a qualifying score on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). Qualifying scores are: a TOEFL computer-based score of 220; a TOEFL internet-based score of 80 (or equivalent score on the paper-based test); or an IELTS score of 6.5. Specific programs may establish higher scores for qualification, and such information must be included in the Graduate Catalog and program website information for that specific program.

Students who are non-native speakers of English (and do not have a degree from a U.S. institution) must pass the SPEAK exam administered by the UCF Center for Multilingual Multicultural Studies before they will be permitted to teach as a Graduate Teaching Associate or Graduate Teaching Assistant.

(6) Exceptions to the above requirements:

(a) In any academic term, up to 20 percent of the graduate students may be admitted in a given degree program as exceptions to the minimum requirements for graduate admissions as defined in (2).

(b) Students who do not meet the admissions criteria and who wish to enroll in courses but not degree programs at the postbaccalaureate level may enroll under the classification of nondegree seeking students. Graduate programs wishing to admit these students to graduate degree programs after the students have satisfactorily completed up to nine hours of graduate course work may do so provided that the number so admitted is included as part of the 20 percent exception, as defined in paragraph 6(a) above.

(c) It is noted that due to federal regulations around international student visas 8 CFR 214.3(k), the College of Graduate Studies will only admit international graduate students in a degree program under the **Graduate Status - Regular** and must meet all relevant admission criteria under this status.

(7) Applicants may appeal an admissions decision by following the university admissions appeal procedure. Information regarding this procedure is available in the Admissions section in the Graduate Catalog.

Student Admissions Classifications

Students may be admitted into graduate status in the categories defined below. Classifications within a graduate status may be viewed in the Admissions section of the catalog.

Degree-seeking Students

A degree-seeking student is a student who has been formally admitted into a master's, specialist, or doctoral program.

Graduate Certificate Students

Students who have applied to and been accepted into a graduate certificate program are classified as graduate certificate students. Graduate certificate students who subsequently apply to and are accepted into a graduate degree program may, at the discretion of the program adviser, transfer the credit hours from one earned graduate certificate program into a graduate degree program.

Nondegree Students

Students are classified in nondegree status if they have not applied to and been accepted into a graduate degree or certificate program. Some students in this status are completing application requirements for a graduate program. Courses taken prior to acceptance to a degree program may be used to fulfill degree program requirements as transfer credits only with the approval of the program director. There are strict transfer credit limits please see the transfer credit policy (link) and consult with the specific program director.

Program of Study

A Program of Study is a listing of course work agreed to by the student and the degree program specifying course degree requirements. A specific Program of Study, which may vary from student to student, must be formulated jointly by the student and the appropriate committee or adviser in the program area and approved by the college. A Program of Study form can be obtained from the graduate program director. This form should be prepared and signed by the adviser and student, then given to the graduate program director for review and filing in the student's permanent file. It must comply with the student's relevant catalog.

Programs of Study for students seeking a master's or specialist degree should be on file with the College of Graduate Studies by the end of the student's second major term (based on full-time enrollment) and must be on file by the end of the term prior to the term of expected graduation. Programs of Study for students seeking a doctoral degree should be on file with the College of Graduate Studies by the end of the third major term of enrollment (based on full-time enrollment), and must be on file prior to the change to candidacy status.

All graduate programs of study must include independent learning as part of course and other assignments. This may be accomplished by research papers and reports, evidence of reflective learning in individual portfolios, creation of original works, and/or demonstration of integration of knowledge as part of course work in a capstone course and other requirements for the degree.

The student and his/her advisory committee may make changes in the program of study at any time with approval of the graduate program director. However, once established, the program of study cannot be altered solely due to poor academic performance of the student.

Course Category Definitions

(Please see specific policies under Master's degree and Doctoral degree program requirements for the proper use of hours that can be applied to degrees.)

In an effort to establish a balance among the essential components of graduate degrees, the 2008-2009 Policy Committee of the Graduate Council categorized the wide variety of graduate courses offered at UCF into the three essential components of graduate education: (1) formal course work; (2) research and independent scholarly work; and (3) disciplinary training. While many courses offer a combination of these elements of graduate education, most can be classified as predominantly addressing one of these components. The following definitions were established to help establish a common vocabulary for this categorization.

- **Courses** All enrollment hours with an official class number.
- **Core/Required courses** Courses that cover a certain body of knowledge that is central to a program of study. These courses must be taken to fulfill degree requirements, and may only be substituted by equivalent course work.
- **Elective courses** Courses that cover a certain body of knowledge that is important, but optional for a program of study.

Formal Course Work

- **Formal courses** Existing UCF courses that involve standard class instruction of a defined body of disciplinary knowledge.

These courses involve interactions between a formal course instructor and the students that make up the class, and can be traditional, face-to-face courses, web courses, and media-enhanced courses. Such classes include both core/required courses as well as elective courses, seminar courses and independent study courses (XXX 6908), but are distinguished from the various categories of individualized research and scholarly courses.

- **Independent Study (XXX 6908)** A course of study created outside of the standard-format formal courses offered by the university. Independent Study must have a formally defined core of knowledge to be learned by the student(s). The core of knowledge to be learned by the student(s) must be specified in written form and approved by the student(s), the instructor, and the program coordinator prior to enrollment in Independent Study.

Research and Scholarly Work

- **Directed Research (XXX 6918, XXX 5917)** Graduate-level research/scholarly work. Research hours taken at the graduate level. These can include laboratory rotations in addition to standard research and scholarly endeavors directed toward completion of a project.
- **Doctoral Research (XXX 7919)** Doctoral-level research/scholarly work. Research hours at the doctoral level taken prior to passing candidacy. These can include laboratory rotations, preparation for candidacy exams, or standard research and scholarly endeavors directed toward completion of a project or a dissertation.
- **Doctoral Dissertation (XXX 7980)** Research or scholarly hours taken after advancement to candidacy and directed toward completion of a dissertation.
- **Thesis (XXX 6971, XXX 6973)** Research hours directed toward completion of a thesis.
- **Research Report (XXX 6909)**

Satisfactory (S) or unsatisfactory (U) grades are used to reflect student progress in these research and scholarly work courses. Other grades may not be assigned in these courses. Should a student in a given term be given an incomplete (I), then this grade should be changed to an S or U upon completion of the work. Students who do not maintain satisfactory progress in their research, as determined by their thesis or dissertation advisory committee, may be placed on probation or dismissed should unsatisfactory progress continue.

Disciplinary Training

- **Internships (XXX 6946)** Courses that provide training experiences for students in their discipline. It is not a formal course, but may be a required element of some programs.
- **Practica and Clinical Practice (XXX 5944 or XXX 6946)**

Graduate programs must select the grading scale for these disciplinary training courses to be either on an AF or Satisfactory (S)/Unsatisfactory (U) scale, but not both in any one section.

Grade System

The university uses an alphabetic system to identify student grades and other actions regarding student progress or class attendance. This system, with a grade point equivalent per semester hour, is as follows:

Grades	Grade Points Per Semester Hour of Credit
A	4.00
A-	3.75
B+	3.25
B	3.00
B-	2.75
C+	2.25
C	2.00
C-	1.75
D+	1.25

D	1.00
D-	0.75
F	0.00
NC	No Credit*

* Available only in CHM 1032, CHM 2045C, CHS 1440, ENC 1101, ENC 1102, MAC 1105H, MAC 1105, MAC 1114, MAC 1140, MAC 2147, MAC 2233, MAC 2241, MAC 2253, MAC 2281, MAC 2281H, MAC 2311, MAC 2311H, and STA 2014C. In these classes NC replaces the use of D+, D and D-.

Other Actions

I	Incomplete
N	No grade reported by instructor
R*	(followed by grade) Repeated course (Grade Forgiveness)
S	Satisfactory (with credit)/Satisfactory Progress (Research, Thesis, or Dissertation)
T*	(followed by grade) Subsequently repeated (no credit)
U	Unsatisfactory (no credit)
W	Withdrawn
WF	Withdrawn Failing
WH	Health Form Withdrawal
WM	Medical Withdrawal
WP	Withdrawn Passing
X	Audit (no credit)

* "R" and "T" actions only apply to undergraduates.

The designation of "N" will be temporarily assigned by the Registrar's Office only in the case when a grade has not been submitted by the faculty by the "grades due" deadline. The designator will be replaced by the earned letter grade at the earliest opportunity in the semester that immediately follows. The "N" designator may not be assigned by faculty.

Grade changes other than medical withdrawals will be considered only during the semester immediately following the one in which the grade was assigned, except that grades assigned during the spring semester may be changed during either the following summer term or fall semester. A change in grade must be approved by the dean of the college or school. If an academic action such as dismissal or probation has been taken by the university before a grade change, the action will remain in effect regardless of the grade change. A grade will not be changed after a degree has been conferred.

Course_Requirements

Course Levels of Graduate Work

7000-Level Coursescourses for doctoral students. Master's and nondegree students may enroll in 7000-level courses with permission from the program.

6000-Level Coursescourses for graduate students. Nondegree students should check with the colleges about their ability to enroll in 6000-level courses. Students in accelerated undergraduate/graduate programs should check with their academic adviser before registering for 6000-level courses. Undergraduate registration in 6000-level courses is allowed only in special situations with prior approval by the college. Undergraduate students must be within nine hours of graduation, have a minimum 3.0 GPA, and not register for more than a total of twelve hours in that term. See also the catalog section on Senior Scholars.

5000-Level Coursescourses for graduate students. Nondegree students and seniors may enroll in 5000-level courses with permission from the program.

Zero Credit Courses

Zero credit hour courses, by definition, have no impact on the overall program hours and should not be used to add fundamental discipline content. A zero credit hour course must not exceed the expected time commitment associated with one credit hour, that is, the amount of work "that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours out of class student work each week for approximately fifteen weeks for one semester ... or the equivalent amount of work over a different amount of time" (SACSCOC Credit Hours Policy Statement). A zero credit hour course can include laboratory work, internships, practica, studio work, and other academic work.

Split-Level Classes

Although generally discouraged, UCF allows departments to offer split-level undergraduate and/or graduate classes. In such cases, two courses approved for different levels of instruction (e.g., a 4000- and 5000-level course) are offered together in the same room, at the same time, and with the same instructor, but under two different course numbers. In limited cases, classes taught in split-level format may comprise undergraduate and graduate level courses. In general, split-level classes are restricted to situations where the enrollment in one of the courses would be insufficient to allow the course to be offered on a stand-alone basis. When such split-level classes are scheduled, the following conditions must be maintained:

- Both the graduate and the undergraduate courses must have been approved previously through the established university process for approving courses so that there are two separate and complete syllabi for each course, and the syllabi clearly demonstrate more advanced subject matter and expectations for the graduate course than the undergraduate course. The graduate course documents submitted for approval must indicate that the course will be offered in a split-level format.
- Graduate split-level classes must only be assigned to faculty members who meet the university-wide minimum qualifications for teaching graduate-level courses.
- Courses may not be combined into a split-level class if the course numbers of the two courses are more than one level apart. For example, 4000- and 5000-level courses may be combined into a split-level class; 4000-level courses may not be combined with 6000-level courses.
- Students may not take both the undergraduate and graduate levels of a split-level course for credit, except in the case of performance and seminar classes, which can be taken for credit multiple times. Graduate students must take the graduate level of a

split-level course for it to count toward fulfilling graduate program requirements.

- The graduate and undergraduate courses must have distinct requirements and performance expectations. Graduate students must have course requirements or assignments that require more in-depth analysis and understanding of the topics, provide broader coverage of the content area, demonstrate higher knowledge and skills, and/or show greater independence of thought and application of concepts than what is typically required of undergraduate students. The level and amount of learning by graduate students must be equivalent to what is typically expected in 5000-level or higher courses. The different requirements and expectations must be spelled out clearly in the course syllabi for the respective courses.
- Documentation of split-level class offerings must be maintained in the dean's office of the academic college, in expectation of future audits. Copies of both syllabi must be provided to the Undergraduate and Graduate Deans for all classes offered in split-level format

Language Requirements

Foreign language requirements shall be at the option of the individual departments or appropriate units consistent with their college regulations.

Credit by Examination or Waiver

Students who believe they have mastered the content of a graduate-level course should present a portfolio to the graduate program director documenting the learning experience. If the committee, after examining the portfolio, believes the student has mastered the content presented in a graduate-level course, the student should be allowed to demonstrate that mastery through examination. Examination credit may be used to satisfy program course requirements, but not credit hour requirements.

Correspondence courses are not acceptable toward a graduate program of study; however, credit-bearing extension or continuing education courses may be accepted. The acceptance of courses from unaccredited agencies or institutions threatens the integrity and value of the graduate degrees awarded by UCF. Graduate-level course work demands the mastery of skills, theories, and concepts at a much higher level than undergraduate-level course work. Therefore, the university will not allow students to transfer course work from professional societies, independent agencies, employees, or companies unless they are ACE (American Council on Education) certified.

Full-time Enrollment Requirements

A full-time degree-seeking graduate student must take at least 9 credit hours in the fall and spring semesters. A half-time load is defined as enrolled in at least 4.5 credit hours in fall and spring terms. During the summer term, full-time is 6 credit hours and half-time is 3 credit hours. There are two exceptions to this policy:

1. For master's students pursuing a thesis option, full-time enrollment is defined as 3 hours per semester [including summers, of only thesis hours (XXX 6971)], after completion of all course work and until successful completion and defense of thesis. Students enrolled in thesis hours simultaneously with coursework hours must be enrolled in a combined nine credit hours to be considered full time for the fall and spring semesters, or six credit hours to be enrolled full time in the summer semester.
2. For doctoral students who have passed the candidacy exam and are registered for doctoral dissertation (XXX 7980) hours only, full-time is 3 hours per semester, including summers, until successful completion and defense of dissertation.

Special Considerations

One exception to this policy is for students pursuing the Clinical Psychology PhD program that requires a 12-month, full-time pre-doctoral internship (CLP 6949) in which registration for one hour per semester (for a total of three semesters) is also defined as full-time.

All international students on F or J visas must maintain full-time, degree-seeking status, regardless of financial support received from the university. F and J visa holders should contact the International Services Center (ISC) to ensure that their enrollment conforms to the full-time definition for their visa status. International students should not change their course schedule or drop classes without advisement from the International Services Center. All international students who enroll in less than 9 hours per term must submit to ISC a Reduced Course Load Form that explains the nature of the reduced hours and must obtain approval from ISC (see www.intl.ucf.edu for Reduced Course Load Form). This requirement also applies to international students who are enrolled in less than 9 hours per term in thesis or dissertation hours.

Students who receive financial support from outside UCF and who have loan obligations are responsible for enrolling in the number of credit hours that meet the full-time or half-time criteria specified by the funding source. Enrollment certification is provided by the Registrar's Office based upon the UCF definition of full-time graduate status.

Students who do not satisfy these full-time enrollment requirements may have to start repaying student loans and will not qualify for graduate assistantships, fellowships or tuition support. Students receiving financial aid should refer to the Program Eligibility Charts on the Office of Student Financial Assistance website (http://finaid.ucf.edu) under "Receiving Aid" to determine their specific enrollment requirements.

Students receiving veterans benefits should contact Veteran's Affairs (www.va.sdes.ucf.edu) for additional information about course loads.

Nondegree-seeking students must be enrolled in 12 credit hours or more to be considered in full-time status.

Dual Degree Shared Credit Policy

The following policies apply to course credits that are counted toward fulfilling the requirements in two degree programs (dual degree shared credit). These policies do not extend to certificate programs. Policies governing credits shared between two certificate programs or between degree programs and certificate programs can be found under either the Graduate Certificate Program Policies or the Masters or the Doctoral Transfer Credit Policies.

The following policies serve to supplement and extend the shared credit policies that can be found in the existing Masters and Doctoral Transfer Credit Policies.

General Limit to Use of Credits for More Than One Degree

No credit hours may be counted for more than two degree programs.

Accelerated Bachelors/Masters Programs

- Accelerated Bachelors/Masters programs have a limit of 9 SCH shared credit for graduate degrees requiring up to 36 credit hours. For graduate degrees requiring more than 36 credit hours, accelerated Bachelors/Masters programs have a limit of 12 SCH shared credit. Proposals for accelerated Bachelors/Masters programs must include a strong curricular rationale that can support the streamlining of credit requirements in the two degrees.
- Shared credit is limited to formal course work, exclusive of independent study. Grades below a B- are not acceptable to fulfill Masters degree requirements if taken while in undergraduate status.
- Only outstanding students may enter accelerated Bachelors/Masters programs (explicit requirements may be specified by the graduate program). All students in these programs must have met the undergraduate general education requirements. Students must apply and be formally admitted to the masters program following receipt of the bachelors degree.
- Accelerated Bachelors/Masters programs must be approved by the Graduate Council Curriculum Committee. Such programs must not unduly delay the completion of the bachelors degree nor limit the breadth of the students undergraduate experience.

Dual Degree Programs

Definition

Dual degree programs lead to two different degree citations on the transcript and two separate diplomas. These may combine master's programs, doctoral programs, and professional degree programs. The purpose of a dual degree program is to allow students to undertake complementary programs of graduate study simultaneously through streamlined curricular arrangements that allow dual credit for a specified set of courses.

Approval

Dual degree programs must be approved by the Graduate Council Curriculum Committee; individualized dual degree programs for specific students are not allowed. Proposals for all dual degree programs must include a strong curricular rationale that can support the streamlining of credit requirements in the two degrees. Dual degree programs that include a new degree program as one of the component degrees must instead be approved by the Graduate Council Program Review Committee.

Shared Credit Limit

A minimum of 50% of required credit hours must be unique to each degree and cannot be used for dual credit. Departments and programs may impose more stringent shared credit limits, but may not exceed the university limit.

Student Admission

Students may be admitted directly to a dual degree program. Upon admission, the Graduate School will place an indicator on the student's record to activate the second program of the dual degree option prior to the completion of 18 SCH in the first program. No admissions requirements established by the Graduate School or by either individual program may be waived. For example, if one dual degree program requires acceptable scores for the GRE and the other does not require it, the applicant must take the standardized exam to be considered for admission to both degrees. International students must contact the International Services Center prior to applying to a dual degree program. Students that apply to the regular program without the dual degree option and later become interested in the dual degree option must contact the dual degree program director prior to completing 18 SCH in the regular program.

Academic Requirements

Formal proposals for dual degree programs must include -

1. a clear rationale for specifying whether joint or distinct documents can satisfy the thesis/dissertation or capstone requirements for each of the component programs;
2. a clear rationale for specifying whether joint or distinct examinations can satisfy the requirements for each of the component programs; and
3. specifications concerning the composition of the advisory committee, with representation from both programs.

All students must have two co-advisors, with one from each program.

Should a student fail to make satisfactory academic progress and be placed on probation, the student should consult with both advisors about the future course of action. Please refer to the section on Academic Progress and Performance for options for students who are dismissed as a result of unsatisfactory academic performance. Please note that students dismissed from a dual degree program may only pursue retention and readmission options with one of the degree programs and may not be retained in or readmitted into the dual-degree program.

Student Financial Support

Formal proposals for dual degree programs must include a clear structure for the financial arrangements for supported students.

Other Policies

- All standard policies apply.
- The graduate status GPA minimum must be met for both programs.
- Students enrolled in dual degree programs must have both degrees conferred simultaneously. No dual degrees will be awarded retroactively.
- Dual degree proposals must include statements concerning the handling of grievances, intellectual property issues, and the assigning of teaching credit and fees.

Limited Nondegree Students Enrolling in Graduate Classes

All students who wish to enroll as limited nondegree students at the graduate level will be accepted as nondegree-seeking students at the graduate level. Students wishing to enroll should complete the online graduate application, pay the application fee, provide transcripts from previous institutions, and complete residency forms.

The UCF College of Graduate Studies will make available the nondegree graduate application form to those faculty who are meeting classes for the first time at an off-campus site or regional campus; those faculty should collect the appropriate information and forms. These materials should be returned directly to the UCF College of Graduate Studies, where they will be processed and students will be registered.

Students will be placed on hold for the following semester's registration, awaiting the transcript from a previous institution that verifies the bachelor's degree.

Academic Progress and Performance

Review of Academic Performance

The primary responsibility for monitoring academic performance standards rests with the degree or certificate program. However, the academic college and the UCF College of Graduate Studies will monitor a student's progress and may dismiss any student if performance standards or academic progress as specified by the program, college or university are not maintained. Satisfactory academic performance in a program includes maintaining at least a 3.0 graduate status GPA (defined below) in all graduate work taken since admission into the program. Satisfactory performance also involves maintaining the standards of academic progress and professional integrity expected in a particular discipline or program. Failure to maintain these standards may result in dismissal of the student from the program.

Graduate Status GPA

A graduate status GPA will be calculated based on the graduate courses taken at UCF since admission into each degree or certificate program. The graduate status GPA is used to monitor the student's progress in the program. The university requires that students must maintain a graduate status GPA of at least 3.0 or higher in order to maintain regular graduate student status, receive financial assistance, and qualify for graduation. This GPA requirement cannot be waived.

In addition, a graduate status GPA will be calculated for nondegree students based on graduate courses taken at UCF while in nondegree status.

Please note that the graduate status GPA does not carry forward from one program to another or from nondegree status into a degree or certificate program.

Probationary Status, Dismissal and Readmission - Students in Nondegree Status

Nondegree students whose graduate status GPA or cumulative GPA falls below 2.0 will be immediately dismissed from the university. (A graduate students cumulative GPA is the GPA for all courses taken at UCF as a graduate student. The graduate status GPA is defined above.) Dismissed students are not allowed to enroll in courses unless they are readmitted either to a graduate program or as a nondegree student.

Nondegree students whose graduate status GPA drops below 3.0 but remains above 2.0 will be automatically changed to academic probationary status by the College of Graduate Studies. Students will receive a notice of probation at the beginning of the probation period, and the notice of probation will be imprinted on the student's advising transcript. Students have up to nine credit hours of letter-graded course work (graded A-F) to attain a graduate status GPA of 3.0 or higher, at which point they will be removed from probationary status. If the student has not attained a graduate status GPA of 3.0 by the end of the probationary nine credit hours, he/she will be dismissed from the university.

Students dismissed from nondegree status may seek admission from a graduate program at any time, but must wait one full year from the term of their dismissal to seek readmission to nondegree status. Dismissed students seeking readmission must submit a complete new application. A readmission decision will be made and the decision is final with no additional opportunity for appeal. If a dismissed student is readmitted, they will be admitted in a restricted status for 9 hours. If at the end of the 9 hours a 3.0 graduate status GPA and a 2.0 overall GPA is not achieved the student will be dismissed with no opportunity to return as a non-degree seeking student.

Probationary Status and Dismissal - Students in a Degree or Certificate Program

Students whose graduate status GPA falls below 2.0 will be immediately dismissed from the university. Dismissed students are not allowed to enroll in courses unless they are readmitted either to a graduate program or as a nondegree student.

Students whose graduate status GPA drops below 3.0 but remains above 2.0 will be automatically changed to academic probationary status by the College of Graduate Studies. Unsatisfactory performance may also be indicated by a "U" grade in graduate course work. Under such circumstances the program may elect to place the student on academic probation.

Students will receive a notice of probation at the beginning of the probation period, and the notice of probation will be imprinted on the student's advising transcript. Students have up to nine credit hours of letter-graded course work (graded A-F) to attain a graduate status GPA of 3.0 or higher, at which point they will be removed from probationary status. If the student has not attained a graduate status GPA of 3.0 at the end of the probationary nine credit hours, he/she will be dismissed from the graduate program unless an approved Conditional Retention Plan is in place as described below. Students who have not remedied the unsatisfactory "U" performance, as defined by the program, may also be dismissed from the program.

The graduate program will also be notified at the time of probation and given an opportunity during the 9-hour probationary period to formally prepare a "Conditional Retention Plan". The Conditional Retention Plan should show how the student can realistically regain his/her regular graduate status (GPA 3.0) within a reasonable time (usually one semester). It should also define the courses to be taken and the timing of the courses to regain his/her graduate status. In addition, the plan could include other conditions as necessary for the continued enrollment of the student in the program such as retaking courses requiring better performance, taking remedial course work in specified areas, or completing special projects to better prepare the student for success in the program. The plan is developed by the graduate program director so that ideally the student and the faculty will know exactly what conditions are required for the continued enrollment of the student. Failure to meet the conditions will result in dismissal without any further appeal of retention. An approved Conditional Retention Plan will usually include an extension of the probationary period, if needed, thus allowing the student to continue without interruption in his/her program even should the student fail to succeed in his/her initial probationary period. The plans are signed by the student and the graduate program director and submitted to the College of Graduate Studies for review and approval. The primary responsibility for monitoring the progress of the student in meeting the Conditional Retention Plan rests with the degree or certificate program, although the appropriate academic college and the College of Graduate Studies may also monitor the plans for compliance.

International students placed on probationary status will be sent to the International Services Center for advisement regarding the immigration status implications of this action.

After dismissal, the following options are available:

OPTION A. The Program Requests Retention of the Student Within One Year After Dismissal.

The dismissed student may not take program-related course work during this process, which must occur within the next semester following dismissal. The request for retention should include reasons for readmitting the dismissed student, as well as provide a "Conditional Retention Plan" as described above. If the request is approved by the College of Graduate Studies, the student will be readmitted into the program under the Conditional Retention Plan in restricted status; failure to meet the conditions will result in dismissal without any further appeal of retention. Requests for retention that are submitted to the College of Graduate Studies early enough for adequate review and approval prior to the late registration period will enable students to re-enroll in the next semester and not have a "dismissal" on his/her transcript.

OPTION B. The Dismissed Student Applies for Entry into the Program from Which He/She Was Dismissed After One Year of Nonenrollment in that Program.

In this case, the student must submit a complete new application (application fee, letters of reference if applicable, AND a statement describing why the student thinks he/she is more capable now to successfully complete the program). The program must submit a "Conditional Retention Plan" (as described above) if they choose to support the former student. The Conditional Retention Plan must be submitted to the College of Graduate Studies for approval before an admissions decision is made.

A student that is admitted back into a program from which he/she was dismissed will continue to have the original dismissal denoted on the transcript and will continue with the same graduate status GPA that the student held prior to dismissal. Also, the student is admitted as a restricted student and must meet the conditions prescribed by the Conditional Retention Plan to enter regular graduate status.

OPTION C: Apply to Another Program.

This option is always available and requires a complete new application. Previously dismissed students accepted into new programs will be admitted under restricted status and have a new graduate status GPA (see Graduate Status GPA section above).

Students with a graduate status GPA of less than 3.0 seeking admission to a different graduate program will be admitted under restricted status with conditions as prescribed by the new program.

Dismissed students will not be allowed to enroll in graduate courses unless they have been admitted to another graduate program or admitted as nondegree students taking classes with permission from the department.

NOTE: Individual graduate programs may have more stringent grade requirements than described above. Students must abide by the academic performance standards of their graduate program.

Maximum Hours of Unsatisfactory Grades

C grades (C, C+, C-), as well as D, D+, D-, F, and U grades, are all considered unsatisfactory grades.

A student may apply a maximum total of six semester credit hours of C grades, or the C grade credits associated with at most two classes, whichever is greater, to satisfy degree program requirements.

Exceeding six semester credit hours of unsatisfactory grades is grounds for dismissal for all degree-seeking and nondegree students. A course in which a student has received an unsatisfactory grade may be repeated, however, both grades will be used in computing the GPA. There is no forgiveness policy for any course taken while in graduate status.

Incomplete Grades

A grade of "I" (incomplete) is assigned by the instructor when a student is unable to complete a course due to extenuating circumstances, and when all requirements can clearly be completed in a short period of time following the close of regular classes. In all circumstances where an "I" grade is received, the student and faculty member must complete an agreement form that specifies how and when the incomplete grade will be made up. This agreement form is submitted with the instructor grade rolls at the end of the semester, and a copy of this agreement is given to the Graduate College for further follow-up. For those students on financial assistance such as loans, the incomplete (I) must be made up by the agreement date. Failure to complete course requirements by that date may, at the discretion of the instructor, result in the assignment of an "F" grade, or a "U" grade for thesis, dissertation, or research report hours. It is the student's responsibility to arrange with the instructor for the changing of the "I" grade.

Grades of "I" must be resolved within one calendar year or prior to graduation, whichever comes first. Incompletes in regular course work left unresolved will be changed to "F" if not changed in the allowed time period, and this time period may be sooner for those receiving financial assistance. The exception to this is enrollment in thesis (XXX 6971) and dissertation (XXX 7980) hours where the incomplete grade will be allowed to continue until graduation. UCF fellowship students cannot receive fellowship funds while holding Incomplete grades and have thirty days from the issuance of the Incomplete to remedy it in order to continue to receive fellowship funds.

Enrollment

Students must be enrolled in order to take exams, to conduct research or to use any university resources and to graduate. Students who have completed all degree requirements may enroll in IDS 6999 during their semester of graduation.

Continuous Enrollment and Active Student Status

Students must be enrolled for at least one semester of every three consecutive semesters in order to maintain active student status. Students who do not meet this enrollment requirement breach continuous enrollment and will be removed from active student status. These students must reapply for admission. Readmission is not guaranteed.

Students with extenuating circumstances that will compel them to be unenrolled for three consecutive semesters or more may complete a Leave of Absence Form to petition to remain in active student status. This form must be submitted no later than the end of the add/drop period of the third semester of non-enrollment. See the section below for details.

1. Because of current U.S. government regulations, international students must be enrolled every fall and spring semester. For students in this category, a Leave of Absence is only available for documented medical reasons.
2. A student who is discontinued for breach of continuous enrollment will lose the option of fulfilling the degree requirements originally listed in his/her official program of study already on file and will instead be subject to the degree requirements listed in the graduate catalog in effect at the time the student is readmitted to the program.

Continuous Enrollment

Students engaged in thesis or dissertation work must be continuously enrolled every term. Doctoral students who have begun taking dissertation hours and Masters students who have completed their required course work and are completing their thesis requirement are required to be continuously enrolled (including summer) until the thesis or dissertation is completed. For details, see the Masters and Doctoral enrollment policies under Thesis and Dissertation Requirements below. Students with extenuating circumstances that will prevent them from enrolling continuously may submit a Leave of Absence Form. See the section below for details.

Enrollment in Multiple Graduate Programs

- Students are allowed to enroll in multiple master's and doctoral degree programs.
- Approval of the program(s) where the student is currently enrolled is not required for application to or enrollment in additional program(s).
- The College of Graduate Studies shall inform the program(s) of current enrollment when a student is accepted for enrollment in a new program.
- Students will be held responsible for showing academic progress in each program in which they are enrolled.

Special Leave of Absence

A Leave of Absence may be granted to a student to temporarily waive the continuous enrollment requirement.

- A leave may be requested in cases where the student can demonstrate good cause (e.g., illness, family issues, financial difficulties, personal circumstances, recent maternity/paternity, employment issues). The specific reason for the Leave of Absence request must be indicated by the student on Leave of Absence Form
- Students may request up to 6 consecutive semesters of non-enrollment.
- Time spent in a Leave of Absence will not reduce the total time limitation for degree completion (see the policy regarding Time Limitation for Degree Completion in the master's, specialist, and doctoral policies).
- If a student fails to enroll in the semester following the last term in the approved Leave of Absence, the student will have failed to maintain continuous enrollment and must apply for readmission to the university.

A Leave of Absence will be granted only after approval from the Graduate Program Director for the student's program of study and the College of Graduate Studies (and the International Services Center for international students, when applicable).

For students seeking a temporary waiver of the continuous enrollment policy, the Leave of Absence Form must be submitted no later than the end of the add/drop period of the third semester of non-enrollment.

For thesis and dissertation students, the Leave of Absence Form must be submitted when a student will not be enrolled for any number of terms. For those students, the Leave of Absence Form must be submitted no later than the end of the add/drop period of the term of non-enrollment.

Readmission

To file for readmission, students must complete a new application, submit the application fee, and update their residency information and health history (if applicable). Students should apply for readmission if they were previously admitted and enrolled in a graduate program but have been absent for three consecutive semesters. For more information on readmission, please visit the Graduate Students website.

Academic Grievance Procedure

The UCF College of Graduate Studies allows for petitions of university requirements and their academic matters. Academic matters are those involving instruction, research, or decisions involving instruction or affecting academic freedom.

The academic grievance procedure is designed to provide a fair means of dealing with graduate student complaints regarding a specific action or decision by a faculty member, program or college, including termination from an academic program. Academic misconduct complaints associated with sponsored research will invoke procedures outlined by the Office of Research and Commercialization.

Students who believe they have been treated unfairly may initiate a grievance. The procedure provides several levels of review, and at each level of review the participants are further removed and have a broader outlook than where the grievance originated. Procedures for initiating an academic grievance can be found at The Golden Rule www.goldenrule.sdes.ucf.edu/ (see section 11).

Petitions of Graduation Requirements Procedures

Students have the responsibility to familiarize themselves with policies and procedures of the university, college, and program. Students are responsible for knowing the degree requirements and for following the policies that govern the academic program. However, when unusual instances arise, making it appropriate for students to request exceptions of existing graduate academic policies for graduate students, graduate students may petition the appropriate unit for an exception to this requirement. The university is always looking for the compelling reason that an exception is warranted, so this needs to be carefully described in any petition. The procedures are:

- The graduate student completes a Graduate Petition Form and submits it to the graduate program director, specifying the requirement (either a program or university requirement) and the exception desired. The graduate student needs to provide a compelling reason for an exception to be made.
- The graduate program director may ask the program graduate committee to examine and provide advice about the petition to the graduate program director. The graduate program director will then make a recommendation about the exception to the unit head. The unit head will then make a final recommendation.
- The petition will then be sent to the College of Graduate Studies for a final decision. The Vice Provost and Dean of the College of Graduate Studies may ask the Appeals Committee of the Graduate Council of the Faculty Senate to examine the information provided in the petition at their next scheduled meeting and make a recommendation concerning the petition to the Vice Provost and Dean.
- The Vice Provost and Dean of the College of Graduate Studies may consider the input of the Appeals Committee of the Graduate Council and will make a final decision about the petition for the university.

Degree or Certificate Completion

Application and Certification for Graduate Degrees

Students planning to graduate in the next term must complete the Application for Graduation (Intent to Graduate available at https://my.ucf.edu). Students who have not applied for graduation by the last day of classes in the term preceding the graduation semester may not be listed in the Commencement Program. If the student does not graduate in that term, a new application for graduation must be filed at the beginning of registration for the term of anticipated graduation. Graduating students must be enrolled at UCF during the term of graduation. Graduates may contact the Registrar's Office for Commencement ceremony and guest ticket information.

Assuming that the student is in good standing at the university, degrees will be awarded only after successful completion of the degree requirements stated in the Graduate Catalog under which the student plans to graduate and final recommendation from the faculty and dean of the respective college.

The college of the degree program must certify through the college dean that all program and college requirements have been met. Degree certification forms (Degree Audit forms or program of study with approval signatures) are forwarded to the UCF College of Graduate Studies for final determination that all program, college, and university requirements have been met.

Application and Certification for Graduate Certificates

In order to be processed for completion of a graduate certificate program, students must file an application for completion (Graduate Certificate Completion form) with the office that offers the certificate program. The Graduate Certificate Completion form should be filed by the time that the student is registering for the final course in the certificate program, and such forms must be filed no later than the end of the semester in which the student enrolls in the last course required for the certificate program. Forms can be found on the UCF Graduate Students website (www.graduate.ucf.edu).

The college of the graduate certificate program must certify through the college dean that all program and college requirements have been met. Completed Graduate Certificate Completition forms (available at www.graduate.ucf.edu) are forwarded to the UCF College of Graduate Studies for final determination of program, college, and university requirements. For each certificate program, the graduate program director will certify successful completion of the program's academic requirements. The certificate is mailed to the student unless the student or the graduate program requests other arrangements. Certificate recipients are not recognized at commencement.

Thesis and Dissertation Requirements

An oral defense of an original thesis or dissertation is required with the approved thesis or dissertation being prepared in accordance with program, college, and university requirements.

The College of Graduate Studies Thesis and Dissertation Manual describes UCF's formatting requirements for theses/dissertations and outlines the steps graduate students must follow to submit their thesis or dissertation electronically. Graduate students can obtain the manual and formatting instructions from Thesis and Dissertation (ETD) on the Graduate Students website. Additionally, the Thesis/Dissertation Office offers workshops to inform graduate students about procedures, deadlines, and requirements associated with preparing a thesis and dissertation.

Academic dishonesty in thesis, research report and dissertation work may result in reversion to postbaccalaureate status or termination from the degree program. Our emphasis on academic honesty requires quotations or ideas of others to be accompanied by appropriate citations.

All theses and dissertations that use research involving human subjects, including surveys, must obtain approval from an independent board, the Institutional Review Board (IRB), for this prior to starting the research. It is imperative that proper procedures are followed when using human subjects in research projects. Information about this process can be obtained from the Office of Research and Commercialization (www.research.ucf.edu). Failure to obtain this prior approval could jeopardize receipt of the student's degree.

Students who wish to complete their degree requirements in a given semester must take their oral defense and submit the final electronic copy of their thesis or dissertation by the dates shown in the Academic Calendar. All students are required to submit their thesis or dissertation electronically.

Traveling Scholars

The Traveling Scholar status enables a UCF graduate student to take advantage of special resources available on another campus that are not available at UCF (for example, special course offerings, research opportunities, unique laboratories, and library collections). Provided the appropriate approval described below is obtained, Traveling Scholar credits are guaranteed to be accepted as earned UCF credits, as long as the grades obtained are B- or higher.

A Traveling Scholar must be recommended by his or her own graduate adviser, who will initiate a visiting arrangement with the appropriate faculty member of the host institution. After agreement by the student's adviser and the faculty member at the host institution, graduate deans at both institutions will be fully informed by the adviser and have the authority to approve or deny the academic arrangement. A student will register at the host institution and will pay tuition and/or registration fees according to fee schedules established at that institution. The Traveling Scholar Form must be completed by the student and approved by the UCF College of Graduate Studies before any course work can be taken.

Each university retains its full right to accept or reject any student who wishes to study under its auspices. A Traveling Scholar will normally be limited to one term for a total of six credit hours taken as a traveling scholar at another institution.

A Traveling Scholar is not entitled to displacement allowance, mileage, or per diem payments. The home university, however, may at its option continue its financial support of the traveling scholar in the form of a fellowship or graduate assistantship with any work obligation to be discharged either at the home or at the host institution.

To obtain credit for approved Traveling Scholar courses, the student must request an official transcript be sent from the host institution to the UCF College of Graduate Studies (Millican Hall 230, P.O. Box 160112, Orlando, FL 32816-0112; Phone 407-823-2766), and the graduate program director must complete the Transfer Request Form so that the credits can be entered into the student database. Credits earned at another institution while in Traveling Scholar status will be considered internal transfer credits and do not count toward the students graduate status GPA. These hours may count toward UCF residency requirements if prior approval is obtained. Graduate students are not allowed to be traveling scholars in their final, or graduation, term except by prior approval of the UCF College of Graduate Studies.

An international graduate student who is registered at another educational institution besides UCF as a Traveling Scholar or as a transient student is required to complete a Reduced Course Load Form to satisfy SEVIS requirements of being enrolled full-time. International graduate assistants employed at UCF must be enrolled full-time at UCF.

Assistantship Opportunities

As part of a program's professional development plan for students, full-time graduate students may be offered the opportunity to gain experience as a Graduate Teaching Assistant (or Associate or Grader; GTA), Graduate Research Assistant (or Associate; GRA), or Graduate Assistant. Please visit the Financial Information section in the catalog for more information.

Assignments to these professional development activities are intended to supplement the student's academic program of study in order to give the student professional experiences that will enhance the student's development and prepare him/her for postgraduation employment. While these activities provide the opportunity for students to be graduate assistants, their overriding purpose is to help develop the skills, abilities, and professionalism of the student.

All graduate assistants (GTAs and GRAs) must be assigned to at least a half-time appointment (0.25 FTE assignment, approximately equivalent to 10 hours per week). However, the standard assignment for graduate assistants is a full-time appointment (0.5 FTE assignment approximately equivalent to 20 hours per week). Students who desire more than a full-time appointment during fall and spring semesters must complete a Supplemental Assignment Form. The UCF College of Graduate Studies will only grant exceptions to this policy in rare circumstances and for compelling reasons related to the student's professional development. Exceptions are granted only rarely during the first year of a student's program of study. Decisions are based on the student's academic record, the appointment FTE, the relationship of the assignments to the student's program of study, support from the graduate program director, and related factors.

Student FICA exemption. Graduate assistants who are enrolled at least part-time (5 hours in fall, 5 hours in spring, or 3 hours in summer) will be exempt from FICA/Medicare taxes during pay periods that overlap with the academic term and during breaks of less than five weeks. Breaks longer than five weeks where graduate students are on a graduate assistant appointment but not enrolled will result in withholding FICA/Medicare taxes.

Academic Common Market Scholars

The University of Central Florida is a participating institution in the Academic Common Market (ACM) program with other southern universities sharing unique academic programs on the undergraduate and graduate level. However, the University of Central Florida only participates at the graduate level.

The Academic Common Market offers students the opportunity to enter degree programs that are not available in their home state, while still being eligible to pay in-state tuition rates. Students taking part in this program must be admitted by a participating university (notifying that university of their planned attendance as an ACM Scholar), and will need to obtain a letter of certification from their respective ACM state coordinator.

The first step is to contact your respective state coordinator for information on how to apply for the Academic Common Market. Contact information for state coordinators can be found on the following website: http://home.sreb.org/acm/states.aspx.

After making contact with your state coordinator, if you are eligible for the ACM, you can apply to the University of Central Florida online through the website at https://application.graduate.ucf.edu/. When filling out the Florida Residency Classification section, select the option that states "I am a Florida Resident for tuition purposes" and fill out the entire section. Before saving the page, you will need to add an explanation for your Florida residency. Please select the letter "N," which states "I am a Southern Regional Education Board's Academic Common Market graduate student."

Upon submission of your application, and your program's required admissions criteria, you will receive a decision from the program in which you have applied. If accepted, you can present that information to your state coordinator, who will then be able to provide UCF with a certification letter. With that letter, UCF will then be able to offer you Florida residency for tuition purposes.

The participating universities are located in the following states:

Alabama	Louisiana	Tennessee
Arkansas	Maryland	Texas*
Delaware	Mississippi	Virginia
Florida*	North Carolina	West Virginia
Georgia	Oklahoma	
Kentucky	South Carolina	

*Only Florida, North Carolina, and Texas participate at the graduate level.

For more information, please contact the UCF College of Graduate Studies at 407-823-2766 (Millican Hall 230, P.O. Box 160112, Orlando, FL 32816-0112). Additional information on the Academic Common Market, including contact information for state coordinators and all available academic programs, can be found on the Southern Regional Education Board (SREB) website, www.sreb.org.

Proprietary and Confidential Information

It is the intent of the University to foster the professional development of its faculty and students. In particular, the proprietary and patent policies serve to protect the interests of UCF graduate students so that they can engage in research that will ultimately be published. In no circumstances should the University knowingly enter into agreement with outside agencies that would prevent the ultimate publication of the graduate student's work, as a thesis or dissertation or other means. These policies also help to clarify protections for intellectual property contained in theses/dissertations for students who engage in employment outside the University.

If thesis or dissertation work is supported by a contractual agreement with an outside agency, and provision was made in the agreement to delay disclosure of the study's results for the purpose of filing a patent or copyright, then this section describes procedures for handling the thesis/dissertation. (See also Patent and Invention Policy below for explanations of rights associated with patents and copyrights.)

1. Only for those theses and dissertations where a prior written agreement was made between UCF and an outside agency or where the University wishes to pursue a copyright/patent may publication of the thesis/dissertation be delayed, or in exceptional circumstances as determined by the University on a case by case basis. Review and delay of disclosure of the thesis/dissertation may take up to 6 months.
2. The review by the outside agency or by the University for the purpose of copyright or patent will follow the oral defense of the document. If it appears that the review process will delay certification of the degree or if the delay of disclosure is exercised, the certification process will be completed but

the thesis or dissertation will not be released for up to 6 months.

3. No graduate degree will be awarded when the thesis or dissertation, after a reasonable interval, is not available to the public. If material is sensitive, classified, or will be patented, the thesis or dissertation will not be released for up to 6 months.
4. Contractual agreements that contain provisions for review and delay of disclosure shall be reviewed by the Office of Research and Commercialization. Exceptional cases may include a delay of disclosure for more than six months and/or review prior to the oral defense.
5. The student and the student's Adviser shall be informed of the possibility of the delay of disclosure at the time of appointment of the Adviser.

Patent and Invention Policy

The "Patent and Invention Policy" for graduate students is included here in its entirety. Departments and colleges should discuss this policy with graduate students at orientations.

PREMISE: UCF has three fundamental responsibilities with regard to graduate student research. They are to (1) support an academic environment that stimulates the spirit of inquiry, (2) develop the intellectual property stemming from research, and (3) disseminate the intellectual property to the general public. In most cases, UCF owns the intellectual property developed using university resources. The graduate student as inventor will according to this policy share in the proceeds of the invention.

1. **University Authority and Responsibilities:** Florida Statute Section 1004.23 authorizes the University to take any action necessary to secure letters of patents, copyrights, and trademarks on any work products and to enforce its rights therein. This policy applies to graduate students who are considered University personnel.
2. **Definitions:** For the purposes of this policy the following definitions shall apply:
    a. A **work** includes any copyrightable material (other than journal articles) such as printed material, computer software or databases, audio or visual materials, circuit diagrams, mask works, architectural and engineering drawings, lectures, musical or dramatic compositions, choreographic works, pictorial or graphic works, and sculptural works.
    b. An **Invention** includes any discovery, invention, process, composition of matter, article of manufacture, know-how, design, model, technological development, strain, variety, culture of any organism, or portion, modification, translation, or improvement of these items, and any mark used in connection with these items.
    c. **Instructional Technology Material** includes motion pictures, film strips, photographic and other similar visual materials, live video and audio transmissions, computer programs, computer-assisted instructional course work, programmed exhibits, and combinations of the above materials, which were prepared or produced in whole or part by a graduate student, and which are used to assist or enhance instruction.
    d. **University Support** includes the use of University funds, personnel, facilities, equipment, materials, or technological information, and includes such support provided by other public or private organizations when it is arranged, administered, and/or controlled by the University.
    e. **Student-generated Effort** means that the ideas come from the graduate student alone outside the field or discipline for which the graduate student is employed by the University, the work was not

made with the use of University support, and the University is not held responsible for any opinions expressed in the effort.

f. **Research** means the inquiry or examination in some field of knowledge undertaken to establish facts or principles that are true. Research, as used in this policy, does not include work done in an internship or coop setting where new knowledge in a field is not actively sought, but rather a setting that offers a real life experience for the graduate student.

3. **Work(s)**
   a. **Student-generated Effort**A **work** made solely by the graduate student, outside the field or discipline for which the graduate student is employed by the University, is the property of the graduate student, who has the right to determine the disposition of such **work** and the revenue derived from such **work.**
   b. **University-supported Efforts**If the **work** was not made solely in the course of student-generated efforts, the **work** is the property of the University, and the graduate student shall share in the proceeds therefrom.
   c. **Disclosure**
      1. Upon creation of a **work** that is potentially patentable, and prior to any publication, the graduate student shall disclose to the Office of Research and Commercialization any **work** made in the course of University-supported efforts, together with an outline of the project and the conditions under which it was done.
      2. The Office of Research and Commercialization shall gather information to assess the relative equities of the graduate student and the university in the **work.**
      3. Within 120 days after such disclosure, the Office of Research and Commercialization will inform the graduate student whether the university seeks an interest in the **work.**
      4. The graduate student and the university shall not commit any act which would tend to defeat the university's or graduate student's interest in the **work** and shall take any necessary steps to protect such interests.

4. **Invention(s)**
   a. **Student-generated Efforts**
   All **inventions** made outside the field or discipline in which the graduate student is employed by the university and for which no university support has been used are the property of the graduate student.
   b. **University-supported Efforts**
   An **invention** made in the field or discipline in which the graduate student is employed by the university, or receiving university support, is the property of the university and the graduate student shall share in the proceeds therefrom.
   c. **Disclosure**
      1. A graduate student as inventor or co-inventor shall fully and completely disclose to the Office of Research and Commercialization all **inventions** which the inventor(s) may develop or discover while a graduate student of the University, together with an outline of the conditions under which it was done. With respect to **inventions** made during the course of approved outside employment, the

graduate student as inventor or co-inventor may delay such disclosure, when necessary to protect the outside employer's interest, until the decision has been made by the outside employer whether to seek a patent.

2. The Office of Research and Commercialization shall inform the graduate student as inventor as well as all other inventors within 120 days of disclosure as to whether the University wishes to assert an ownership interest in the intellectual property.
3. The division of proceeds generated by the licensing or assignment of an **invention**, shall be according to the established royalty division set forth in the patent policy of the University of Central Florida Research Foundation.
4. The graduate student as inventor(s) and the University shall not commit any act which would tend to defeat the University's or inventors' interest in the **invention** and shall take any necessary steps to protect such interests.

5. **Release of Rights**

At any stage of making the patent applications, or in the commercial application of an **invention**, if it has not otherwise assigned to a third party the right to pursue its interests, the Office of Research and Commercialization, may elect to withdraw from further involvement in the protection or commercial application of the **invention**. At the request of the graduate student in such case, the University shall transfer the **invention** rights to the inventor(s), in which case the **invention** shall be the inventor(s) property, and none of the costs incurred by the University or on its behalf shall be assessed against the inventor in whole or in part.

6. **University Policy**

a. The University has a policy addressing the division of proceeds between graduate students and faculty when the **research** is done and results in a dissertation, University Regulations, 6C7-2.029 Copyrights and Patents). The University also has a policy addressing the division of proceeds between UCF inventor(s) and the University (see University Regulations, 6C7-2.029). It is also contained in the Patents and Copyrights Policy of the UCF Research Foundation. This same division of royalties will apply in the disbursement of royalty income to graduate students as inventor(s), unless this has been negotiated in a separate contractual agreement.
b. All sponsored **research** done by graduate students enrolled at the University for and with companies must have a contractual agreement with UCF negotiated at the start of that research. Graduate students must be informed at the start of the research about any contractual agreements that would concern future publication of their research work.
c. Dissertation or thesis dissemination can be delayed because of patent or proprietary information concerns of a sponsor. This can occur when a prior contractual agreement has been entered into that includes provisions for a research sponsor's review between the sponsor and University. (See Proprietary and Confidential Information above in the *Graduate Catalog*.)

International Graduate Student Policies

Full-time Enrollment Requirements

A full-time degree-seeking graduate student must take at least 9 credit hours in the fall and spring semesters. A half-time load is defined as enrolled in at least 4.5 credit hours in fall and spring terms. During the summer term, full-time is 6 credit hours and half-time is 3 credit hours. There are two exceptions to this policy:

1. For master's students pursuing a thesis option, full-time enrollment is defined as 3 hours per semester (including summers, without skipping a semester) of thesis course work (XXX 6971), after completion of all course work and until graduation. Students who wish to enroll in part-time hours should consult their adviser.
2. For doctoral students who have passed the candidacy exam and are registered for doctoral dissertation (XXX 7980) hours only, full-time is 3 hours per semester until graduation. Such students must continue to enroll in at least three dissertation hours each semester (including summers, without skipping a semester) until they successfully complete the dissertation and graduate. Students who wish to enroll in part-time hours should consult their adviser.

Graduate students receiving assistantships, tuition support, and fellowships must be enrolled full-time as degree-seeking students who maintain good academic progress.

Special Considerations

All international students on F or J visas must maintain full-time, degree-seeking status, regardless of financial support received from the university. F and J visa holders should contact the International Services Center (ISC) to ensure that their enrollment conforms to the full-time definition for their visa status. International students should not change their course schedule or drop classes without advisement from the International Services Center. All international students who enroll in less than 9 hours per term must submit to ISC a Reduced Course Load Form that explains the nature of the reduced hours and must obtain approval from ISC (see www.intl.ucf.edu for Reduced Course Load Form). This requirement also applies to international students who are enrolled in less than 9 hours per term in thesis or dissertation hours.

Students who do not satisfy these full-time enrollment requirements will not qualify for graduate assistantships, fellowships or tuition support.

International Student Employment

According to U.S. Citizenship and Immigration Services (USCIS) regulations, graduate students who are on an F-1 or J-1 visa may accept employment on campus without prior USCIS approval as long as students are enrolled full-time and employment does not interfere with their studies.

Graduate students who desire to engage in off-campus employment must be approved by the International Services Center (ISC) for Curricular Practical Training (CPT) prior to beginning the employment. CPT is defined as employment that is an integral part of the established curriculum and can be in the form of an internship or cooperative educational experience. In order to qualify for CPT, there are several requirements that must be met. Please speak with an adviser at the ISC for more information on these requirements and prior to engaging in off-campus employment.

During the fall and spring semesters, on-campus employment is limited to no more than 20 hours per week while school is in session.During the summer,on-campus employment may be up to 40 hours per week. (Please note that all graduate assistants during the summer must enroll in a full-time course load.) Employment may also be up to 40 hours per week during vacation or other break periods. Please speak with an adviser at the ISC for clarification of these policies.

On-campus employment is not permitted after completion of the program of study, unless the student is issued a Form I-20A-B to begin a new program and intends to enroll in the next regular academic term or session.

Students who received a bachelor's degree at one school and will start a master's degree or PhD at UCF are eligible to work during the summer at UCF as long as a Form I-20A-B was issued for the new master's or PhD program.

International students on an F-1 visa are eligible to apply for one year of optional practical training (OPT) after completion of their program.

For more information about the employment of international students, contact the International Services Center at 407-823-2337 or visit the office to speak with an adviser.

English-speaking Abilityfor Graduate Teaching Associates and Assistants

Students who plan to serve as graduate teaching associates or assistants (GTAs) and for whom English is a second language are required to pass the SPEAK test. The SPEAK test evaluates an individual's English-speaking skills.This requirement applies to all students from countries where English is not the native language; however, such students will be exempt if they have completed a previous degree from a regionally accredited U.S. college or university, from a country where English is the only official language, or from a university at which English is the only official language of instruction, or they have received a score of 26 or higher on the Speak portion of the ibt TOEFL. Only exempted students and those who have attended the UCF GTA Training and satisfactorily passed the evaluation of their English-speaking skills may be assigned as GTAs.

For more information about this requirement and the free English-speaking training that the university provides, see "English-speaking Ability for Graduate Teaching" in the Assistantships section of this graduate catalog. See Graduate Teaching in the UCF Graduate Student Handbook for Information on registering for GTA Training and SPEAK testing.

International Visiting Scholars

The following policy and procedures allow departments to invite international visitors to study, teach, or participate in research activities at UCF. The policy is directed to those who do not wish to earn a degree, but who may audit courses in the postbaccalaureate, nondegree-seeking status for professional development and who normally have complete financial support provided by some outside agency. These visiting scholars will have J-1 visa status and use the Professor, Research Scholar, or Specialist category as permitted by immigration regulations. Visitors seeking degrees will use regular UCF admission procedures and must enter theUnited Statesusing the F-1 or J-1 visa student category.

Visiting scholars who are required to audit courses at UCF must fill out the UCF application for admission as a nondegree student and pay the application fee. The deadline is about four months before the beginning of a term. A faculty member, as Faculty Sponsor, must accept the responsibility for recommending, advising, and directing the activities of the scholar. The procedure for extending an invitation to a prospective scholar is as follows:

1. If financial support will be provided to the visiting scholar using university resources, then the approval of the university must be obtained on all correspondence with the visiting scholar. Written arrangements should be made with the Vice President for Research for financial support prior to invitations to visiting scholars.
2. The Department Chair will submit a recommendation to the Dean specifying the Faculty Sponsor, documenting anticipated activities, and providing the following information on the Visiting Scholar:
    a. Date of birth
    b. City and country of birth
    c. Country of residence if different from country of birth
    d. Place of work (academic institution, business firm, etc.)
    e. Current position held in country of residence
    f. Academic background
    g. Professional experience
    h. Source and amount of financial support (recommended honorarium, if any)
    i. English proficiency
    j. Dates of visit
    k. Statement of how the Visiting Scholar will participate in research and what will be accomplished
    l. Office space, equipment, etc. which will be required for scholar's use
3. If arrangements are approved, the Dean will notify the Vice President for Research that the College is extending an invitation. The Chair's recommendation will be included with the notification. These will be sent to the UCF College of Graduate Studies so that the invitation and application may be placed in the visiting scholar's official university file.
4. The UCF College of Graduate Studies will then forward copies of the information to the International Services Center. Upon receipt and verification of the required documents, a Form DS-2019 for the purpose of the J-1 visa application J-1 Visa will be issued.
5. The Faculty Sponsor will then correspond with the visitor detailing the conditions of the visit, including whatever limited financial support and facilities will be provided and what is expected of the Scholar, with copies of this correspondence sent to the International Services Center and the Vice President for Research. The Scholar will be asked to write a brief report at the termination of the visit.
6. **All visiting scholars should report to the International Services Center directly upon arrival at UCF to ensure that their immigration documents are in order.**

During each academic term of the visit, the Visiting Scholar may be required to audit one hour of XXX 6918, Directed Research, under the direction of the Faculty Sponsor and also may be permitted (or required) to audit regular courses. The Visiting Scholar will be admitted to postbaccalaureate status and will audit courses as directed and approved by the Faculty Sponsor. The Visiting Scholar will not be permitted to take courses for credit unless formally admitted to a degree program or upon written approval from the Dean of the college in which the student is studying.

The international visiting scholar will be appointed Visiting Research Scholar or Visiting Scholar in the College and may be given a modest honorarium. Such scholars will normally not be maintained on the College payroll, but are expected to have extended financial support.

Linkage Agreements

The State of Florida has established various linkage agreements to assist in the development of stronger economic and social ties between Florida and strategic foreign countries. Linkage Institutes are set up throughout the state and provide out-of-state tuition exemption to scholars from the foreign countries represented by the institutes. To participate in these exemptions, students must apply to the Linkage Institute for the country in which they reside to receive an out-of-state tuition award. Students participating are required to return home after their tenure of graduate study for a length of time equal to the exemption period. Each institute develops its own criteria for selection of students and typically supports the out-of-state fees for about 20 to 30 scholars a year. The institutes established in Florida are listed below with their contact persons.

Florida-Brazil Institute

Center for Latin American Studies
University of Florida
319 Grinter Hall
P.O. Box 115530
Gainesville, FL 32611-5530
Tel: (352) 392-0375 ext. 800
Fax: (352) 392-7682
Web Address: http://www.floridabrazil.org/

Florida-Canada Institute

Lisa Lomitola
Office of International Studies
University of Central Florida
3000 Central Florida Blvd, MH 150
Orlando, FL 32826-3105
Phone: (407) 823-3647 Fax: (407) 882-0240
E-mail: fcli@ucf.edu
Web Address:
www.international.ucf.edu/fcli

Florida-Caribbean Institute

Christine Jarchow
Latin American & Caribbean Center
Florida International University
DM-353 University Park, Miami, FL 33199
Phone: (305) 348-1913 Fax: (305) 348-3593
E-mail: jarchowc@fiu.edu
Web Address:
casgroup.fiu.edu/lacc/pages.php?id=1027

Florida-China Institute

Dr. Miriam Stamps
Chair of Marketing Department
College of Business
University of South Florida
4202 E. Fowler Ave., BSN 30403, Tampa, FL 33620
Phone: (813) 974-6205 Fax: (813) 974-6175
E-mail: mstamps@coba.usf.edu

*Tuition Exemption Office
Dr. Henry Chen
University of West Florida
11000 University Parkway
International House Bldg. 71, Room 117,
Pensacola, FL 32514-5750
Phone: (850) 474-2665 Fax: (850) 474-2915
E-mail: hchen@uwf.edu

Francine Arrington
Director of International Services
Brevard Community College, 1519
Clearlake Road, Cocoa, FL 32922
Phone: (321) 433-7342
E-mail: arringtonf@brevard.cc.fl.us
Web Address: www.uwf.edu/fcli/

Florida-Costa Rica Institute

*Tuition Exemption Office
Joan Cassels
International Programs Office
Florida State University
A5529 UCA, Tallahassee, FL 32306-2420
Phone: (850) 644-7823 Fax: (850) 644-8817
E-mail: jcassels@admin.fsu.edu
Web Address:
international.fsu.edu/Types/Linkage/Florica%20Costa%20Rica.aspx

Florida-Eastern Europe Institute

Tuition Exemption Office
Mr. Angel Cardec
Office of International Studies
University of Central Florida
12424 Research Parkway, Suite 395
Orlando, FL 32826-3208
Phone: (407) 882-2300 Fax: (407) 275-4386
E-mail: acardec@mail.ucf.edu

Dr. Charles Mojock
Lake-Sumter Community College
9501 U.S. HWY 441, Leesburg, FL 34788-8751
Phone: (352) 365-3523 Fax: (352) 365-3548
E-mail: mojockc@lscc.cc.fl.us
Web Address:
www.international.ucf.edu/eeli

Florida-France Institute

*Tuition Exemption Office
Dr. Christine Probes, Co-director (c/o Violetta Urba)
Florida France Institute
University of South Florida
4202 E. Fowler Ave., CPR107, Tampa, FL 33620-5550
Phone: (813) 974-8081 Fax: (813) 974-8271
E-mail: global.usf.edu/florida_france/

Joan Cassels
International Programs
Florida State University
A5529 UCA, Tallahassee, FL 32306-2420
Phone: (850) 644-7823 Fax: (850) 644-8817
E-mail: jcassels@admin.fsu.edu
Web Address:
global.usf.edu/florida_france/index.htm

Florida-Israel Institute

Dr. Zvi Roth, Co-Director
Florida-Israel Institute
Florida Atlantic University, SE-470
777 Glades Road, Boca Raton, FL 33431
Phone: (561) 297-3471 Fax: (561)-297-4094
E-mail: rothz@fau.edu

Dr. Catherine Meschievitz, Director
Office of International Programs SU-106
Florida Atlantic University
777 Glades Rd., Boca Raton, FL 33431
Phone: (561) 297-1039 Fax: (561) 297-2850
E-mail: cmeschie@fau.edu

Dr. Daniel Rieger, Co-Director
Florida-Israel Institute
Broward Community College
Bldg. 57, Room 215 (North Campus)
1000 Coconut Creek Blvd., Coconut Creek, FL 33066
Phone: (954) 201-2451
E-mail: drieger@broward.edu

Dr. David D. Moore
Associate Vice President for International Education
Broward Community College
225 East Las Olas Boulevard, Fort Lauderdale, FL 33301
Phone: (954) 201-7707 Fax: (954) 201-7708
E-mail: dmoore@broward.edu
Web Address: www.floridaisrael.org

Florida-Japan Institute

Tuition Exemption Office
Dr. Mark Orr
(c/o Violetta Urba)
University of South Florida
4202 E. Fowler Ave., CPR 107, Tampa, FL 33620
Phone: (813) 974-8081 Fax: (813) 974-8271
E-mail: florida-japan@iac.usf.edu

Ms. Shigeko Honda
University of West Florida
11000 University Parkway Pensacola, FL 32514-5750
Phone: (850) 474-3108 Fax: (850) 857-6024, shonda@uwf.edu
Web Address: www.uwf.edu/intered/fjli/

Florida-Mexico Institute

Christine Jarchow
Latin American & Caribbean Center
Florida International University
DM-353 University Park, Miami, FL 33199
Phone: (305) 348-1913 Fax: (305) 348-3593
E-mail: jarchowc@fiu.edu
Web Address:
casgroup.fiu.edu/lacc/pages.php?id=1013

Florida-West Africa Institute

Dennis Gayle
Ms. Betty Flinchum
University of North Florida
Building 838
c/o International Center
4567 St. Johns Bluff Road, South
Jacksonville, Florida 32224-2676
Phone: (904) 620-1950 Fax: (904) 620-3925
E-mail: dgayle@unf.edu, bflinchu@unf.edu

Dr. Brenda Simmons
Florida Community College at Jacksonville
101 W. State St. #A 1185, Jacksonville, FL 32202-2056
Phone: (904) 633-5895 Fax: (904) 633-8172
E-mail: bsimmons@fccj.org

Ms. Anges Coppin
Florida A&M University
304 Perry Page North, Tallahassee, FL 32307
Phone: (850) 599-3562 Fax: (850) 561-2587
E-mail: agnes.coppin@famu.edu
Web Address:
www.unf.edu/intlctr/FLAWI_Waiver.aspx

Graduate Certificate Program Policies

Graduate certificate programs are a way for universities to provide the latest disciplinary knowledge in the most flexible and convenient formats for the professional development of its alums and others who desire further education. Graduate certificate programs are very popular options at UCF for graduate study without having to commit to an existing master's or doctoral program. One of the benefits of enrolling in a graduate certificate program is that later, should students decide to do so, they can usually apply all of the credits earned in the graduate certificate to a graduate program. The graduate certificate program is meant to be flexible and offer a short-term of study that provides specialized knowledge that supplements an existing degree. Graduate certificate programs are particularly helpful to those professions where licensure and continuing professional development are required. Many of our graduate certificate programs are offered online for convenience. One of the most important benefits of our graduate certificate programs is that they are taught by our graduate faculty using regular graduate courses at the university.

UCF has 68 graduate certificate programs available to supplement existing graduate programs or to provide specialized knowledge in disciplines that complement the education of working professionals in the metropolitan area served by UCF. Many of our area employees have advanced graduate degrees and can enhance their education with specialized groups of courses. Frequently, a package of specialized courses that forms a certificate will increase employment credentials, lead to career enhancement, and produce more income.

It is the intent of these programs to be current and to provide specialized, state-of-the-art content to area employees. Often certificate programs are offered using flexible and nontraditional delivery systems that provide the best service to the employees in this metropolitan area. Distributed learning, weekend courses, evening courses, and accelerated term courses are acceptable.

Certificate programs are often ideal for nondegree students who would like to sample graduate courses before committing to a graduate degree program. Certificate programs may round out a graduate degree program, providing a special emphasis that supplements a graduate degree. Frequently, a certificate program can provide an interdisciplinary focus that provides more depth and understanding to an existing graduate program.

Any academic unit may propose a graduate certificate program that encompasses graduate courses in its graduate program. If an interdisciplinary certificate program is proposed, it must be acceptable to departments and faculty offering the courses and graduate programs on which the certificate program is based.

http://www.graduatecatalog.ucf.edu/programs/publish.aspx

Certificate Program Admission Requirements

Students currently admitted to a graduate degree program or to nondegree status can apply and are eligible to enroll in graduate certificate programs. In addition, individuals who have previously completed bachelor's, master's, or doctoral degrees are eligible to enroll in certificate programs. In order to apply to a graduate certificate program, a student must submit an online admissions application, pay a $30 application fee, and submit an official transcript showing an earned bachelor's or higher degree from a regionally accredited or recognized foreign institution. On the online application, the student must designate the certificate program that he/she wishes to enter. Students are required to submit the application and obtain formal admission to the graduate certificate program. Students are advised to apply for the graduate certificate program well in advance of completion of all required courses. Students must complete the certificate requirements that are listed in the Graduate Catalog that is in effect at the time of their formal admission to the certificate program.

Admission to a certificate program does not guarantee admission to a graduate program. However, once a person is accepted into a master's, specialist and doctoral graduate program, credits from a completed UCF certificate program may be applied toward an existing graduate program with the consent of the program.

Nondegree students who are enrolled in a certificate program are not eligible for tuition support, assistantships, or fellowships, and are not generally eligible for federal financial aid.

Course Requirements and Loads

A certificate program must include a minimum of nine semester hours. The course work must consist of an integrated and organized sequence of study; course substitutions are not permitted.

No internship or independent study courses may be used in a certificate program. The use of practicum courses in certificate programs is not generally encouraged, but may be used in programs where there is a strong professional setting and on-campus faculty supervision. Alternative delivery programs are acceptable and encouraged.

Certificate students must take the full number of required hours for a certificate program. Generally, a course may not apply toward more than one certificate program. However, if an overlap of course work occurs between two or more certificate programs for the same student, the student must complete the total required hours by taking electives approved by the program.

All courses that are offered as part of a certificate program must be graduate-level courses. Students must earn course grades of "B-" or better to get credit toward the certificate. Courses may be retaken to achieve a better grade. However, the certificate will only be awarded if the graduate status GPA in the certificate program of study is 3.0 or higher.

Transfer of Credit

No graduate credit hours taken at other institutions can be applied to a graduate certificate program at UCF. If requested prior to the completion of the certificate program requirements, graduate credit hours taken at UCF from a prior baccalaureate, master's, specialist, or doctoral degree may be applied toward a certificate, with the consent of the program, provided they are no more than seven years old. The request for using credits from prior years must be submitted no later than the end of the add/drop period in the semester in which the student takes the final course in the certificate program.

Time Limitation for Certificate Completion

The student has seven years from the date of admission (prerequisite, articulation, and foundation courses are exempt) to the certificate program to complete the certificate. In addition, no course older than seven years at the time of graduation may be used in the Program of Study for a certificate. Students who do not maintain continuous enrollment (missing enrollment at the university for a period of three consecutive semesters) must file for readmission to the university, although seven years is measured from when the student was first admitted to the program.

Readmission

Certificate students should maintain continuous enrollment in their certificate program. Students who anticipate that they may not be able to enroll continuously due to external circumstances should apply for a Special Leave of Absence (see Special Leave of Absence in the General Graduate Policies).

If certificate students do not maintain continuous enrollment and have not filed for a special leave of absence (see Continuous Attendance in the General Graduate Policies), they must file for readmission to the university. To file for readmission, the student must complete a new online Application. For more information about readmission, refer to the Admissions section of this catalog.

Readmission decisions are individually made, based on such factors as space in the program, reasons for the break in graduate education, progress in the certificate program, among others. Readmission is not guaranteed.

Completion of Graduate Certificate

In order to be processed for completion of a graduate certificate program, students must have obtained formal admission into the graduate certificate program (see Certificate Program Admission Requirements above). Students nearing completion of a graduate certificate program must complete the online Intent to Graduate Form by logging into myUCF and navigating to the Student Center Academics > Undergraduate and Graduate Careers > Intent to Graduate: Apply. Intents to graduate should be filed online no later than the last day of registration for the semester of graduate certificate completion.

Students will only be processed for completion of a graduate certificate if they have previously submitted a certificate application form, have been formally admitted to the program, and have filed an intent to graduate. Students must be enrolled in the semester in which the graduate certificate is being completed.

Master's Program Policies

Master's Admission Requirements

Admission to a master's degree program requires a bachelor's degree from a regionally accredited institution, or recognized foreign institution, and a minimum of a 3.0 GPA in the overall bachelor's degree program or in the last 60 attempted semester hours of undergraduate studies. Some master's programs do not require a GRE or GMAT score for the admissions process while others do. Please see the Graduate Programs section of the catalog for information about specific program requirements.

Programs often require additional or higher criteria. An applicant's character, integrity and general fitness to practice a particular profession may also be considered in the admission process. The university encourages applications from a diverse population and values diversity in our graduate programs.

Course Requirements

The program requirements for a master's degree may include core and elective courses, seminars, independent study, clinical courses, directed research, and thesis research.

- A minimum of 30 semester hours of postbaccalaureate, graduate work (5000-level or higher) is required and must be taken as part of an approved graduate program of study. Some programs require more than the minimum of 30 hours because of the nature of the discipline and the standards of the associated profession.
- At least half of the credit hours used to meet program requirements must be at the 6000 level.
- Only graduate-level work with a grade of "C-" or higher may be used to satisfy degree requirements.
- For the masters degree, at least 24 semester hours of core and elective courses must be earned exclusive of thesis and research.
- In no case will the number of thesis hours in excess of the amount required by a program be counted toward degree completion.
- At least 50 percent of the credits offered for the degree are expected to be derived from a single field of concentration (that is, from one department). However, programs that are interdisciplinary in nature may be exempt from this policy upon approval from the Graduate Council Curriculum Committee.
- A research report, capstone course, comprehensive exam, or other culminating experience that demonstrates that graduate students have engaged in independent learning is required in a nonthesis option master's program. An explanation of how the culminating experience promotes independent learning is required in each program's curricular description.
- A thesis hour requirement may only be satisfied by enrollment in thesis hours.
- In the case where a student changes from a thesis to a nonthesis option, up to 6 thesis hours may be used to substitute for other research hours.

Independent Study Hours

Independent study (XXX 6908) may be taken for a total of no more than six semester hours.

Residence Credit

The master's degree program must include at least 21 semester credit hours taken at UCF. Residence credits may be earned through enrollment in courses physically offered on the main campus; or at the UCF regional campuses (Brevard, Daytona Beach, and Downtown); or at geographical locations where UCF courses are being taught by regular UCF faculty members. Residence credits may also include UCF courses offered through the web or courses taken as a Traveling Scholar if prior approval is obtained.

Transfer of Credit

Any credits taken prior to the term of admission to your program and used to satisfy specific program requirements are considered graduate transfer credits.

The acceptance of transfer credits in a program of study must be approved by the program. Graduate programs may stipulate additional constraints beyond those included in the university transfer policy.

All transfer credits toward a masters or specialist degree should be finalized by the end of the second term of program enrollment (based on full-time enrollment), and must be finalized by the end of the term prior to the term of expected graduation.

The thesis credit requirement of a program may not be satisfied by transfer credits.

Students with international transfer credits from recognized international institutions may be required to obtain a Joseph Silny evaluation.

No more than 9 credit hours from a previously earned degree may be used to satisfy the requirements of a masters degree, except as part of a formally approved accelerated bachelors/masters program.

The total number of transfer credits may not exceed 50% of program requirements, except under two circumstances.

1. UCF graduate certificate credits: up to all of the hours taken to fulfill an earned UCF graduate certificate can be used toward a graduate degree within the same or closely related discipline. If the number of transfer credits for an earned UCF graduate certificate is equal to or exceeds 50% of program requirements, additional transfer credits are not allowed.
2. Transfer of credits from a UCF doctoral program to a masters program (other than masters degrees obtained along the way to a doctoral degree): transfer of credits that exceed 50% of program requirements is at the discretion of the program and requires approval of the Appeals Committee.

Two different types of transfer credit can be brought into a masters program of study.

1. External transfer credits: graduate-level course credits completed at a regionally accredited institution (excluding UCF) or recognized international institution.

   External credits are eligible for transfer only if they meet the following criteria:

   - Only graduate-level or higher courses may be accepted as transfer credits.
   - Only courses with a grade of "B-" or higher are allowed to be transferred into a program of study (not petitionable).
   - Only hours that are no more than seven years old at the time the degree is conferred may be transferred, unless part of an earned graduate or professional degree.

- Only formal course work hours, but not thesis or research hours, may be used as transfer credits (not petitionable).

External transfer credits are limited to up to 9 credit hours.

2. **Internal transfer credits**: graduate-level course credits completed
   a. at UCF prior to enrolling in the program for which the degree is sought, including those taken in undergraduate status at UCF as part of a Senior Scholar or accelerated program; or
   b. as a Traveling Scholar (see Traveling Scholars in the General Graduate Policies for more information).

Internal credits are eligible for transfer only if they meet the following criteria:

- Only graduate-level courses may be accepted as transfer credits.
- Only courses with a grade of "B-" or higher are allowed to be transferred into a program of study (not petitionable).
- Only hours that are no more than seven years old at the time the degree is conferred may be transferred, unless part of an earned graduate degree.

Graduate degree programs are permitted to accept up to nine hours of graduate-level course work taken by a student while in undergraduate status at UCF. More than nine hours may be accepted if part of a formally approved accelerated program.

The sum of transfer credits from an earned graduate or professional degree, external transfer credits, and transfer credits from graduate-level course work taken by a student while in undergraduate status at UCF may not exceed nine credit hours.

Summary Table of Transfer Credit Limits

Student Situation	Specific Requirements	General Requirements
Transfer credits from an earned graduate degree	= 9 SCH	Sum may not exceed 9 SCH
External credits	= 9 SCH	
Graduate-level credits while in UCF undergraduate status	= 9 SCH	
Other internal transfer credits		Total transfer credits may not exceed 50% of program requirements*

*Exceptions:

- May exceed 50% only if all transfer credits are from a single earned UCF graduate certificate; no additional credits may be transferred.
- Transfer of credits from a UCF doctoral program to a masters program within the same discipline.

Accelerated Undergraduate and Graduate Programs

Some programs combine undergraduate and graduate course work in a more seamless educational experience for students, reducing the time spent working on both degrees and providing a challenging educational experience to outstanding undergraduates. These accelerated bachelor's and master's (4+1) programs usually will allow students to complete a bachelor's and master's degree within about five years and are intended for only the most highly qualified undergraduate students.

While students are classified as undergraduate students, they are subject to undergraduate policies. Similarly, when classified as graduate students, they are subject to graduate policies and may qualify for graduate financial support.

The undergraduate requirements listed in the *Graduate Catalog* for specific programs are for informational purposes only. The official requirements are detailed in the *Undergraduate Catalog* and take precedence over what is described here.

Senior Scholars

UCF undergraduates who meet departmental eligibility requirements may enroll in UCF graduate courses and use them toward their undergraduate degree and their graduate program of study upon admission to a UCF graduate program. As Senior Scholars, they are entitled to use up to nine graduate credit hours (more may apply for some accelerated programs) toward a UCF graduate degree or certificate, provided they have received advisement and written approval to do so from the graduate program director. This permission must be obtained before enrolling in the graduate courses. In addition to approval from the graduate program director, undergraduates must consult their undergraduate adviser to ensure that registration in graduate-level course work will meet their bachelor's degree requirements. The student must receive college and university approval to interrupt the residency requirement. The University Waiver Form can be obtained from the undergraduate department office. Tuition and fees for graduate-level courses are different from undergraduate courses, and it is the student's responsibility to consult with the Office of Student Financial Assistance (http://finaid.ucf.edu/) regarding adjustments that might be needed for Bright Futures and other scholarship funding.

Time Limitation for Degree Completion

The student has seven years from the date of admission (prerequisite, articulation, and foundation courses are exempt) to the master's program to complete the degree. In addition, no course older than seven years at the time of graduation may be used in the Program of Study for a master's degree. Students who do not maintain continuous enrollment (missing enrollment at the university for a period of three consecutive semesters) must file for readmission to the university, although seven years is measured from when the student was first admitted to the program.

Readmission

Master's students should maintain continuous enrollment in their degree program. Students who anticipate that they may not be able to enroll continuously due to external circumstances should apply for a Special Leave of Absence (see Special Leave of Absence in the General Graduate Policies).

If master's students do not maintain continuous enrollment and have not filed for a special leave of absence (see Continuous Attendance in the General Graduate Policies), they must file for readmission to the university. To file for readmission, the student must complete a new online Application. For more information about readmission, refer to the Admissions section of this catalog.

Readmission decisions are individually made, based on such factors as space in the program, reasons for the break in graduate education, progress in the degree program, among others. Readmission is not guaranteed.

Other Academic Requirements

Comprehensive Culminating Experience

An appropriate culminating academic experience is required of all master's degree students. It may include a thesis defense, written or oral examination, research report, capstone course, presentation and defense of a portfolio of student work, or other appropriate scholarly activity of a type that has been approved by the Graduate Council that demonstrates that graduate students have engaged in independent learning. An explanation of how the culminating experience promotes independent learning is required in each program's curricular description.

Advisement

Appointment of Committee or Adviser

An academic adviser and advisory committee is required when the student is enrolled in a thesis option and can be useful when there is substantial flexibility in course work. It is the responsibility of the department to appoint an adviser and advisory committee.

Thesis Requirements

The thesis is the culminating or comprehensive experience for those who conduct an original research study as part of a thesis-option program. The thesis consists of a common theme with an introduction and literature review, details of the study, and results and conclusions. Since the work is original, it is very important that care is taken in properly citing ideas and quotations of others. Academic dishonesty in thesis, research report and dissertation work may result in termination from the degree program.

An oral defense of the thesis is required. The approved thesis must be written and prepared in accordance with program, college, and university requirements. Thesis and Dissertation (ETD) describes university requirements and formatting instructions for theses and outlines the steps that graduate students must follow in order to submit their theses electronically to the UCF College of Graduate Studies.

Additionally, the Thesis and Dissertation Office offers workshops to inform graduate students about procedures, deadlines, and requirements associated with preparing a thesis.

Thesis students are required to submit their thesis electronically. Electronic thesis/dissertation (ETD) submissions are archived by the UCF library in digital format that is widely accessible. The electronic thesis may include video and audio clips as well as other formats that are appropriate for the field of study.

All theses that use research involving human subjects, including surveys, must obtain approval from an independent board, the Institutional Review Board (IRB) prior to starting the research. Graduate students and the faculty that supervise them are required to attend training on IRB policies, so this needs to start well in advance of the research start date. It is imperative that proper procedures are followed when using human subjects in research projects. Information about this process can be obtained from the Office of Research and Commercialization (www.research.ucf.edu). Click on "Compliance" and the *IRB Policy and Procedures Manual* is available. In addition, should the nature of the research or the faculty supervision change since the IRB approval was obtained, then new IRB approval must be sought. Failure to obtain this prior approval could jeopardize receipt of the student's degree.

Students who wish to complete their degree requirements in a given semester must take their oral defense and submit their final electronic copy to the UCF College of Graduate Studies by the dates shown in the Academic Calendar.

Thesis Advisory Committee Membership

A student writing a thesis must have a Thesis Advisory Committee consisting of at least three members who are approved members of the Graduate Faculty or Graduate Faculty Scholars (www.graduatecatalog.ucf.edu/gradfaculty/). This committee will recommend to the Dean of the college regarding the student's program of study, provide continual guidance for the student, and be the principal mechanism for the evaluation of the student's thesis and performance in any general examinations. At least two members of the Thesis Advisory Committee must be Graduate Faculty, one of whom must serve as the chair of the committee. Graduate Faculty Scholars may serve as a member or co-chair of a thesis advisory committee but may not serve as the chair.

Program areas may specify additional committee membership beyond the minimum of three. These committee members must also be approved members of the Graduate Faculty or Graduate Faculty Scholars. Graduate Faculty members must form the majority of any given committee. Additional information regarding the criteria for serving as a member, co-chair, or chair of a Thesis Advisory Committee is provided in the updated Graduate Faculty policy.

Committee membership must be approved by the program director and submitted to the College of Graduate Studies. All members must be in fields related to the thesis topic. The UCF College of Graduate Studies reserves the right to review appointments to a Thesis Advisory Committee, place a representative on any Thesis Advisory Committee, or appoint a co-chair. A student may request a change in membership of the Thesis Advisory Committee with the approval of the program director and re-submission to the College of Graduate Studies.

All committee members vote on acceptance or rejection of the final thesis. The thesis proposal and final thesis must be approved by a majority of the committee.

Responsibilities of Members of Thesis Advisory Committees

All members of the doctoral advisory committee have responsibilities. See the Graduate Faculty and Graduate Faculty Scholars Policy for this information.

Enrollment in Thesis Hours

After completion of other course requirements, master's level students may be considered full-time if they enroll in at least three credit hours of thesis (XXX 6971) hours only. They subsequently must enroll in three thesis hours each semester continuously (including summers) until successful completion of minimum program coursework and thesis hours. After which, with approval of the thesis committee chair or adviser, students may enroll in minimum of one thesis hour per semester. Students enrolled in thesis hours simultaneously with coursework hours must be enrolled in a combined nine credit hours to be considered full time for the fall and spring semesters, or six credit hours to be enrolled full time in the summer semester. Students who need to interrupt their thesis work for extenuating circumstances must submit a Leave of Absence Form to the College of Graduate Studies. Submission and approval of the form must be obtained prior to the first day of classes for the term of non-enrollment.

Thesis Defense

Thesis defenses will be approved by a majority vote of the Thesis Advisory Committee. Thesis committee members who do not approve of the thesis may choose not to sign the thesis approval sheet. Further approval is required from the Dean or Dean designee and the UCF College of Graduate Studies before final acceptance of the thesis in fulfilling degree requirements.

Virtual Thesis Defenses

Graduate programs may elect to offer the option of a virtual thesis defense (student off-campus defense) upon approval of the program coordinator/director, the department, and the college. Programs that choose to offer the option of a virtual defense must develop and ensure procedures for the implementation of the virtual defense process and procedures must be published in the programs handbook. These procedures should address the form and time for the students request for a virtual defense, the process for seeking approval, the teleconferencing facilities and equipment to be used, the availability of technical support during the defense, alternative plans if needed, and other relevant issues. Use of a web conferencing platform like Lync or Adobe Connect is recommended as is the preparation of participants and testing of the system prior to the defense date. Students should also seek approval for a virtual defense by the time they file the intent to graduate. It is expected that at minimum the thesis committee chair will be present at the campus location of the public defense. Individual programs may add further restrictions or requirements for students to proceed with virtual defenses.

Review for Original Work

The university requires all students submitting a thesis as part of their graduate degree requirements to first have their electronic documents submitted through iThenticate for advisement purposes and for review of originality. The thesis chair is responsible for scheduling this submission to iThenticate and for reviewing the results from iThenticate with the student's advisory committee. The advisory committee uses the results appropriately to assist the student in the preparation of their thesis.

Before the student may be approved for final submission to the university, the thesis chair must indicate completion of the Review for Original Work through iThenticate by signing the Thesis Approval Form.

Thesis Dissemination

While UCF respects the wishes of students who would like to publish their work and/or apply for patents, it is essential for scholarly research conducted at a university to be available for dissemination. While several options are available for the release of an ETD, it is the goal of the university that all theses be available through the UCF Libraries catalog. Upon uploading the final ETD to the UCF Libraries ETD website, students, in some cases with their advisers, must choose one of the options for the availability of their ETD through UCF. Students with potential patent concerns are required to discuss the following options with their thesis adviser and indicate the availability choice on the Thesis and Dissertation Release Option electronic form, which the student submits in the myUCF Student Center.

For those with no patent or copyright concerns:

- Immediate worldwide dissemination with no restrictions.

For those who have patent issues, dissemination options must be discussed and agreed to with your adviser. Choices are:

- Pending dissemination of the entire work for six months for patent or other proprietary issues, with an additional six months extension available. Once the patent and proprietary issues are resolved, then immediate worldwide dissemination with no restrictions.
- Pending dissemination of the entire work for six months for patent or other proprietary issues, with an additional six months extension available. Once the patent and proprietary issues are resolved, choosing this option allows the student to make the thesis available to the university community for the period chosen below, and then for it to be distributed via the Web beyond that time.
    - one year
    - three years*
    - five years*

For those who have copyright concerns, dissemination options are a student decision within the guidelines of individual departments that may have requirements for dissemination. If a department has no guidelines for dissemination, then students are free to choose one of the options below. In general, those in the sciences and engineering will choose one year while students in the arts and humanities may choose longer. Choosing this option allows the student to make the thesis available to the university community for the period chosen below, and then for it to be distributed via the Web beyond that time.

- one year
- three years*
- five years*

*Does not require thesis adviser signature and approval.

Public Access

Students, faculty, staff, and other interested parties are strongly encouraged to attend thesis final defense sessions. Notices providing date, time, and location of such meetings must be distributed to all academic departments.

These sessions are educational and informative for graduate students and provide an opportunity for colleagues to observe the work of their peers. At the discretion of the Chair of the Thesis Advisory Committee, questions may be invited from the audience. That part of the session involving committee discussion leading to a vote on the acceptance of the work will be closed. Sessions may be recessed briefly to excuse visitors and the candidate before this stage begins.

Conferral of Masters Degrees for Students in Doctoral Degree Programs

A student making satisfactory progress in a doctoral program may be eligible to be awarded a masters degree in the same discipline. The masters degree program and the College of Graduate Studies have the authority to determine whether the doctoral program credits satisfactorily fulfill the masters degree requirements. All requirements for the masters degree must be fulfilled, including passing all examinations and submitting a thesis, if so required. Up to a maximum of 9 SCH of substitutions are allowable, provided that the substitutions are higher level courses for their precise lower level counterparts, exclusive of substitutions for thesis hours.

In such cases:

1. The program requirements for the masters degree are governed by the requirement term used for the doctoral degree program.
2. The two degrees are not considered to be part of a formal dual degree program and, therefore, are not subject to the policies governing dual degree programs.
3. Courses credited towards the Master's degree are not implemented as transfer credits to another program, and therefore fall outside of the transfer credit policy.

The general restriction that no credit hours may be counted for more than two degree programs applies to these masters degrees as well. Credits from a previously earned master's degree may not be used to fulfill the requirements of a master's degree for a student in a doctoral degree program (a "master's along-the-way").

Education Specialist Programs

Education Specialist (EdS) degrees are awarded in Educational Leadership, Curriculum and Instruction, and School Psychology (which offers a track in School Counseling). The EdS degree provides an opportunity for professionals in leadership positions in an educational environment to receive in-depth academic study. This degree provides the opportunity for the development of a high level of professional proficiency in such areas as instruction, supervision, administration, curriculum, and current research literature. The primary goal of the EdS degree is teaching or acquiring professional proficiency in a specialized education-related area. Because the purpose of the EdS degree may differ from that of the EdD, credit earned in an EdS program is not automatically transferable to a doctoral program. Instead, if a holder of an EdS degree enters a doctoral program at a later date, the doctoral advisory committee will decide how much of the credit earned in the EdS program will be credited toward the doctorate. In any case, only 30 hours taken prior to doctoral status may be transferred into the doctoral program of study.

Specialist Admission Requirements

Admission to the Education Specialist program requires (1) a master's degree in an approved program from a regionally accredited institution or recognized foreign institution (except in the case of the School Psychology Specialist program, which does not require a master's degree, but does have other special admission criteria), (2) a competitive score on the GRE, (3) other criteria as required by the individual departments, and (4) a recommendation for admission by the appropriate College of Education Graduate Admissions Committee.

Examinations

Educational Leadership majors must successfully complete one 5-hour examination in their major area and one 3-hour examination in an area of specialization. Curriculum and Instruction majors must successfully complete one 3-hour examination in their teaching specialty and one 3-hour examination in the Educational Foundations area. School Psychology (School Psychology Track) students must successfully complete one 3-hour examination during the last semester of enrollment.

Program of Study and Academic Standards

A program of study (i.e., required course work) will be specified by the student's program area and approved by the college. Minimal core requirements for the EdS degree consist of 36 hours beyond the master's degree, which must include a minimum of 12 graduate-level hours in the specialization area, 6 graduate-level hours in research/statistics, and additional core requirements that are specific to each of the EdS degrees. An approved program of study must be on file with the College of Graduate Studies by the end of the student's second major term. A graduate status GPA of 3.0 must be maintained in all graduate course work taken at UCF since admission into the specialist program. All academic standards which apply to master's students will will also apply to specialist students.

Transfer of Credit

Any credits taken prior to the term of admission to your program and used to satisfy specific program requirements are considered graduate transfer credits.

The acceptance of transfer credits in a program of study must be approved by the program. Graduate programs may stipulate additional constraints beyond those included in the university transfer policy.

All transfer credits toward a masters or specialist degree should be finalized by the end of the second term of program enrollment (based on full-time enrollment), and must be finalized by the end of the term prior to the term of expected graduation.

The thesis credit requirement of a program may not be satisfied by transfer credits.

Students with international transfer credits from recognized international institutions may be required to obtain a Joseph Silny evaluation.

No more than 9 credit hours from a previously earned degree may be used to satisfy the requirements of a specialists degree, except as part of a formally approved accelerated bachelors/masters program.

The total number of transfer credits may not exceed 50% of program requirements, except under two circumstances.

1. UCF graduate certificate credits: up to all of the hours taken to fulfill an earned UCF graduate certificate can be used toward a graduate degree within the same or closely related discipline. If the number of transfer credits for an earned UCF graduate certificate is equal to or exceeds 50% of program requirements, additional transfer credits are not allowed.
2. Transfer of credits from a UCF doctoral program to a masters program (other than masters degrees obtained along the way to a doctoral degree): transfer of credits that exceed 50% of program requirements is at the discretion of the program and requires approval of the Appeals Committee.

Two different types of transfer credit can be brought into a specialists program of study.

1. **External transfer credits**: graduate-level course credits completed at a regionally accredited institution (excluding UCF) or recognized international institution.

   External credits are eligible for transfer only if they meet the following criteria:

   - Only graduate-level or higher courses may be accepted as transfer credits.
   - Only courses with a grade of "B-" or higher are allowed to be transferred into a program of study (not petitionable).

- Only hours that are no more than seven years old at the time the degree is conferred may be transferred, unless part of an earned graduate or professional degree.
- Only formal course work hours, but not thesis or research hours, may be used as transfer credits (not petitionable).

External transfer credits are limited to up to 9 credit hours.

2. **Internal transfer credits**: graduate-level course credits completed
   a. at UCF prior to enrolling in the program for which the degree is sought, including those taken in undergraduate status at UCF as part of a Senior Scholar or accelerated program; or
   b. as a Traveling Scholar (see Traveling Scholars in the General Graduate Policies for more information).

Internal credits are eligible for transfer only if they meet the following criteria:

- Only graduate-level courses may be accepted as transfer credits.
- Only courses with a grade of "B-" or higher are allowed to be transferred into a program of study (not petitionable).
- Only hours that are no more than seven years old at the time the degree is conferred may be transferred, unless part of an earned graduate degree.

Graduate degree programs are permitted to accept up to nine hours of graduate-level course work taken by a student while in undergraduate status at UCF. More than nine hours may be accepted if part of a formally approved accelerated program.

The sum of transfer credits from an earned graduate or professional degree, external transfer credits, and transfer credits from graduate-level course work taken by a student while in undergraduate status at UCF may not exceed nine credit hours.

Summary Table of Transfer Credit Limits

Student Situation	Specific Requirements	General Requirements
Transfer credits from an earned graduate degree	= 9 SCH	Sum may not exceed 9 SCH
External credits	= 9 SCH	
Graduate-level credits while in UCF undergraduate status	= 9 SCH	
Other internal transfer credits		Total transfer credits may not exceed 50% of program requirements*

*Exceptions:

- May exceed 50% only if all transfer credits are from a single earned UCF graduate certificate; no additional credits may be transferred.
- Transfer of credits from a UCF doctoral program to a masters program within the same discipline.

Time Limitation and Continuous Attendance

The student has seven years from the date of admission (prerequisite, articulation, and foundation courses are exempt) to the specialist program to complete the degree. No course older than seven years, at graduation, may be used in the program of study for a specialist degree. Students who do not maintain continuous enrollment (missing enrollment at the university for a period of three consecutive semesters) must file for readmission to the university, although seven years is measured from when the student was first admitted to the program.

Readmission

Specialist students should maintain continuous enrollment in their degree program. Students who anticipate that they may not be able to enroll continuously due to external circumstances should apply for a Special Leave of Absence (see Special Leave of Absence in the General Graduate Policies section).

If specialist students do not apply for a Special Leave of Absence and do not maintain continuous enrollment (see Continuous Attendance in the General Graduate Policies section), they must file for readmission to the university. To file for readmission, the student must complete a new online Application. For more information about readmission, refer to the Admissions section of this catalog.

Readmission decisions are individually made, based on such factors as space in the program, reasons for the break in graduate education, progress in the degree program, among others. Readmission is not guaranteed.

Doctoral Program Policies

Doctoral Admission Requirements

Eligibility for admission to a doctoral program is limited to superior students who have demonstrated intellectual ability, high achievement, and adequate preparation for advanced study and research in a chosen field.

Minimum university standards for admission can be found in the Admissions section of the catalog. Meeting minimum university admission standards may not satisfy doctoral program admission requirements. Programs often require additional or higher criteria. See the Graduate Programs section of the catalog for specific program requirements.

Course Requirements

The primary objective of doctoral study is to educate students to a point of excellence in conducting, disseminating, and applying scholarly research, with the explicit goal of making original, substantive contributions to their degree discipline. The advanced nature of doctoral education requires student participation, debate, evaluation, and discussion of diverse ideas and approaches. Careful analysis, independent research, and greater understanding and application of ideas are also expected.

The doctoral degree program requirements will consist of core and elective courses, seminars, directed and doctoral research, independent study, and dissertation research.

- Each doctoral program of study will include a minimum of 72 semester hours of graduate credit beyond the baccalaureate degree or a minimum of 42 semester hours of graduate credit beyond the masters degree; these graduate credits must be taken as part of an approved graduate program of study. Some

programs require considerably more than the minimum of 72 hours because of the nature of the discipline and the standards of the associated profession.

- All graduate credit in a doctoral program must be at 5000 level or higher.
- At least one-half of the credit hours used to meet program requirements must be in 6000-level or 7000-level courses, including the allowed number of research and dissertation hours.
- At least 50 percent of the credits offered for the degree are expected to be derived from a single field of concentration (that is, from one department). However, programs that are interdisciplinary in nature may be exempt from this policy upon approval from the Graduate Council Curriculum Committee.
- Only graduate-level credit with a grade of "C-" or higher may be used to satisfy degree requirements.
- A university-wide minimum of at least 27 hours of formal course work exclusive of Independent Study (XXX 6908), dissertation and research is required for all doctoral programs; some programs require a greater number of formal course work hours.
- A university-wide minimum of at least 15 hours of dissertation credits is required for all doctoral programs, although some programs require a greater number of dissertation hours.
- The dissertation hour requirements may only be satisfied by enrollment in dissertation hours.

Course Levels

6000- and 7000-Level CoursesA minimum of 36 credit hours (including courses taken in a master's program) must be in 6000-level and 7000-level courses, which are designed, respectively, for graduate students and doctoral students only. For students with waived hours from an earned master's, this amount is at least one-half of the program hours remaining after the waived hours are applied.

Transfer of Credit

Types of Transfer Credit

Three different types of credit may be brought into a program of study for course work taken outside of UCF or prior to enrolling in the program for which the degree is sought.

1. **External transfer credits**: course credits completed at a regionally accredited institution (excluding UCF) or recognized international institution.

   External transfer credits are eligible for transfer only if they meet the following criteria:

   - Only graduate-level courses may be accepted as transfer credits.
   - Only courses with a grade of "B-" or higher are allowed to be transferred into a program of study (not petitionable).
   - Only hours that are no more than seven years old at the time the degree is conferred may be transferred, unless part of an earned graduate degree.
   - Only formal course work hours, but not thesis or research hours, may be used as transfer credits (not petitionable).

   External transfer credits are limited to up to 9 credit hours for students who do not have a completed graduate degree or for students in doctoral programs that require a masters degree for admission.

2. **Internal transfer credits**: graduate-level course credits completed
   a. at UCF prior to enrolling in the program for which the degree is sought, including those taken in undergraduate status at UCF as part of a Senior Scholar or accelerated program; or

b. as a Traveling Scholar (see Traveling Scholars in the General Graduate Policies for more information).

Internal credits are eligible for transfer only if they meet the following criteria:

- Only graduate-level or higher courses may be accepted as transfer credits.
- Only courses with a grade of "B-" or higher are allowed to be transferred into a program of study (not petitionable).
- Only hours that are no more than seven years old at the time the degree is conferred may be transferred, unless part of an earned graduate degree.

(Note: Internal thesis or research hours may be used as transfer credits, but may not be used to satisfy formal course work requirements.)

Graduate degree programs are permitted to accept as internal transfer credits up to nine hours of graduate-level course work taken by a student while in undergraduate status at UCF. More than nine hours may be accepted if part of a formally approved accelerated program.

3. **Waived credits**: 30 credit hours in a program of study that are waived on the basis of an earned masters degree, not based on individual courses.

For students in doctoral programs that do not require a masters degree for admission, students with an earned master's degree may have 30 credit hours waived if the following criteria are met:

- the earned degree is from a regionally accredited institution or recognized foreign institution;
- the master's degree was earned in the same or a closely related area of study

Transfer Credit Limits

In no case may the sum of all transfer and waived credits exceed 50% of the total degree requirements of any doctoral degree.

The acceptance of transfer or waived credits in a program of study must be approved by the program; graduate programs may stipulate additional constraints beyond those included in the university transfer policy.

All transfer and waived credits to be used toward a doctoral degree should be finalized by the end of the third major (fall/spring) term of program enrollment (based on full-time enrollment), and must be finalized prior to the change to candidacy status.

The thesis or dissertation credit requirements of a program may not be satisfied by waived or transfer credits.

Students may be required to obtain a Joseph Silny evaluation to obtain transfer or waived credits from recognized international institutions.

For students who do not have a completed graduate degree, the total number of transfer credits are limited to up to 15 credit hours, or up to all of the hours taken to fulfill an earned UCF graduate certificate.

For students in doctoral programs that require a masters degree for admission, the total number of transfer credits are limited to up to 15 credit hours, or up to all of the hours taken to fulfill an earned UCF graduate certificate. Credits from the required, earned master's degree may not be used to satisfy doctoral program requirements.

For students in doctoral programs that do not require a masters degree for admission, students with an earned master's degree from a regionally accredited institution or recognized foreign institution may:

- waive 30 credit hours of requirements and credits in a program of study; or
- transfer up to 30 credit hours from any earned masters degree in the same or a closely related area of study, provided a course-by-course review is performed.

Students who transfer up to 30 credit hours from any earned master's degree or who have 30 credit hours waived from an earned master's degree may also transfer up to 9 additional graduate credits, provided the sum of all transfer and waived credits does not exceed 50% of the total degree requirements.

Summary Table of Transfer Credit Limits

Student Situation	Specific Requirements	General Requirements
Students without an earned master's degree; students in doctoral programs that require a masters degree for admission		
External credits	= 9 SCH	Sum may not exceed 15 SCH*
Graduate-level credits while in UCF undergraduate status	= 9 SCH	
Other internal credits	= 15 SCH	
Students with an earned master's degree in doctoral programs that do not require a masters degree for admission		
Waived credits from earned degree in the same or related discipline (internal or external)	30 SCH	Sum may not exceed 50% of program requirements
Transfer credits from earned degree in the same or related discipline (internal or external)	= 30 SCH	
Other external credits	= 9 SCH	
Graduate-level credits while in UCF undergraduate status	= 9 SCH	
Other internal transfer credits	= 15 SCH	

*Exceptions:

- Up to all of the hours taken to fulfill an earned UCF graduate certificate.

Academic Integrity Training

All students newly admitted to doctoral programs must complete training designed to inculcate an awareness and understanding of the fundamental issues of academic integrity and the responsible conduct of research (RCR) in a manner that is consistent with federal regulations. This required training includes: (1) the online Collaborative Institutional Training Initiative (CITI) Responsible Conduct of Research training module in the appropriate disciplinary area; and (2) four face-to-face ethics/RCR workshops coordinated by the College of Graduate Studies and the Office of Research and Commercialization, or an approved alternative training offered as a program requirement for all students in the program. Students in a program that has approved alternative ethics/RCR training must still complete the online CITI Responsible Conduct of Research training in the appropriate disciplinary area.

The workshops and CITI training modules are open to all UCF graduate students and postdoctoral fellows and associates. For the ethics/RCR workshops, priority is given to doctoral students who are required to complete these workshops prior to advancement to candidacy.

Deadlines:

1. All academic integrity/RCR training requirements must be completed prior to a students advancement to candidacy.
2. The CITI module should be completed by the end of a students second major (Fall/Spring) term of enrollment.
3. All academic integrity and RCR training requirements must be completed in a manner that is consistent with federal regulations.

A doctoral student who has not completed the required training in academic integrity and the responsible conduct of research will not be advanced to candidacy.

Workshops:

The College of Graduate Studies and the Office of Research and Commercialization offer a series of workshops to enable students to fulfill the four workshop requirement. Students must take at least two workshops from a set of core workshops which focus on: personal integrity in the classroom; plagiarism; data management (including fabrication, falsification, and confidentiality); authorship and peer review; mentor and trainee responsibilities; collaborative research; and conflicts of interest. Students must complete two additional workshops from among the set of core workshops or a series of additional workshops, which will provide more specialized training such as human subjects, animal welfare; and other areas of ethical concern unique to a discipline or research area.

Programs may develop alternatives for the training workshops that focus on issues of particular relevance to their specific disciplines and fields, or that better accommodate the schedules of their students. Alternative training must be offered as a program requirement for all students in the program. The training content must be specified in the syllabus/syllabi of required formal courses and include the core topics listed above as well as other topics appropriate to the specific discipline. Alternative training content must be submitted for review and approval by the College of Graduate Studies and the Office of Research and Commercialization prior to student attendance.

Further information concerning workshop sessions and registration and how to complete the CITI training module may be found at Academic Integrity Training.

Time Limitation and Continuous Enrollment

A student has seven years from the date of admission to the doctoral program to complete the dissertation and the doctoral degree. No courses used in a program of study can be older than seven years at the time of graduation. Credits that are part of an earned master's degree are exempt from this 7-year expiration, including those earned "along-the-way" in a doctoral program.

Students who anticipate being out for an extended period of three consecutive semesters or longer should apply for a Special Leave of Absence no later than the end of the add/drop period of the third semester of absence. Students who do not maintain continuous enrollment without a Special Leave of Absence (see Continuous Attendance and Special Leave of Absence in the General Graduate Policies) must file for readmission to the university, although seven years is measured from when the student was first admitted to the program.

Readmission

If doctoral students do not maintain continuous enrollment (see Continuous Attendance in the General Graduate Policies), they must file for readmission to the university. To file for readmission, the student must complete a new online Application. For more information about readmission, refer to the Admissions in this catalog.

Readmission decisions are individually made, based on such factors as space in the program, reasons for the break in graduate education, progress in the degree program, among others. Readmission is not guaranteed.

Conferral of Masters Degrees for Students in Doctoral Degree Programs

A student making satisfactory progress in a doctoral program may be eligible to be awarded a masters degree in the same discipline. Policies concerning these degrees can be found under Master's Program Policies.

To avoid confusion of terminology for examinations, all programs should use the following terms:

Qualifying Examination. Eligibility to continue a doctoral program should be limited to superior students who have demonstrated intellectual ability, high achievement, and adequate preparation for advanced study and research in a chosen field. The decision to allow a student continuing progress toward a doctorate is made by the graduate committee of the program area concerned on the basis of the qualifying examination (optional by programs) and/or other criteria as specified by the individual program area. This exam is normally given within the first year of the doctoral program. This is a written examination and is permanently filed in the student's records in the program. Programs have their own requirements as to how many times this exam can be repeated.

Candidacy Examination. This exam takes place prior to admission to Candidacy Status. This is a written examination and is permanently filed in the student's permanent records. It is normally taken near the end of completion of course work, and must be passed before being allowed to enroll in doctoral dissertation (XXX 7980) hours. Programs have their own requirements, which are explained in their graduate student handbooks, as to how many times this exam can be repeated.

Dissertation Proposal Examination. After passing the general Candidacy Examination, the student will write and defend a Dissertation Proposal in an oral examination. Programs have their own requirements as to how many times this exam can be repeated. All materials including the approved proposal and other agreements will be kept in the student's file in the program.

Dissertation Defense. This is an oral examination (or defense) of the dissertation.

Examination Committee

In some programs a doctoral examination committee will be formed consisting of several faculty members representing the appropriate disciplines and approved by the Dean or college designee to administer qualifying and/or candidacy examinations. In many cases this committee will consist of the program graduate committee. All members will evaluate and vote as to whether students have successfully completed the exams.

Candidacy

Admission to Candidacy

A student must demonstrate his or her readiness for the PhD program by successfully completing the candidacy examination before admission to full doctoral status and enrollment into dissertation hours. The Candidacy Examination should be taken when the student is nearing the end of course work. The exam is administered by the members of the students dissertation advisory committee or another appropriate committee appointed by the program. External committee members of the dissertation advisory committee are not appointed until after the student has passed the Candidacy exam. Admission to candidacy will be approved by the program director and the college coordinator and forwarded to the UCF College of Graduate Studies for status change. Only after admission to candidacy may a student register for doctoral dissertation hours (XXX 7980). Effective beginning in the fall 2010 term, students must have passed candidacy and have the candidacy and dissertation advisory committee documentation received and processed by the College of Graduate Studies prior to the first day of classes for the term in order to enroll in dissertation hours for that term.Students enrolling in dissertation hours for the first time during the summer must have their paperwork submitted prior to the first day of classes for Summer C, regardless of which summer session they will enroll in.

Doctoral students admitted to candidacy are expected to enroll in dissertation hours and to devote full-time effort to conducting their dissertation research and writing the required dissertation document. Students in doctoral candidacy must continuously enroll in at least three hours of dissertation course work (XXX 7980) each semester (including summer) until the dissertation is completed.

Candidacy Examination

The purpose of the Candidacy Examination is for the student to demonstrate a strong foundation of knowledge within the specific discipline, and the ability and preparation to conduct independent scholarly research. The committee may examine a broad range of appropriate capabilities, including theory, bibliography, research methodology, and the evaluation of preliminary research, when appropriate. The examination must have a written component; it also may include an oral defense of a written report or dissertation proposal. All written examination materials will be kept in the student's file in the program.

Dissertation Requirements

Dissertations are required in all PhD programs. For EdD programs, some tracks require a dissertation, while others require a dissertation-in-practice (see the program information for description of a dissertation-in-practice). The dissertation consists of an original and substantial research study designed, conducted, and reported by the student with the guidance of the Dissertation Committee. The written dissertation must include a common theme with an introduction and literature review, details of the study, and results and conclusions prepared in accordance with program and university requirements. The dissertation is expected to represent a significant contribution to the discipline. Since this work must be original, it is very important that care is taken in properly citing ideas and quotations of others. Failure to do so is academic dishonesty and subject to termination from the program without receiving the degree. An oral defense of the dissertation is required.

Enrollment in Dissertation Hours

The university requires all doctoral students to take a minimum of 15 credit hours of doctoral dissertation hours; however, specific programs may require more than this minimum. Dissertation research is considered to be a full-time effort, and post-candidacy enrollment in at least three doctoral dissertation (XXX 7980) credit hours constitutes full-time graduate status. Doctoral students who have passed candidacy and have begun taking doctoral dissertation hours (XXX 7980) must enroll in at least three dissertation hours each semester (including summers, without skipping a semester) until completion of minimum program coursework and dissertation hours. After which, with approval of the dissertation chair or adviser, students may enroll in minimum of one dissertation hour per semester. Students who need to interrupt their dissertation work for extenuating circumstances must submit a Leave of Absence Form to the College of Graduate Studies. Submission and approval of the form must be obtained prior to the first day of classes for the term of non-enrollment.

Dissertation Advisory Committee Membership

Doctoral students must have a Dissertation Advisory Committee prior to advancement to candidacy status. The Committee will consist of a minimum of four members who are approved members of the Graduate Faculty or Graduate Faculty Scholars (see Graduate Faculty). At least three members must be Graduate Faculty, one of whom must serve as the chair of the committee. One member must be from either outside the student's department at UCF (or college, if a college-wide program) or outside the university. The Graduate Program Committee may specify additional advisory committee membership beyond the minimum of four. These additional advisory committee members must also be approved members of the Graduate Faculty or Graduate Faculty Scholars. Graduate Faculty members must form the majority of any given committee.

Committee membership must be approved by the program director and submitted to the College of Graduate Studies. All members must be in fields related to the dissertation topic. The UCF College of Graduate Studies reserves the right to review appointments to a dissertation advisory committee, place a representative on any dissertation advisory committee, or appoint a co-chair. A student may request a change in membership of the dissertation advisory committee with the approval of the program director and re-submission to the College of Graduate Studies.

All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the committee.

Responsibilities of Members of Doctoral Advisory Committees

All members of the doctoral advisory committee have responsibilities. See the Graduate Faculty and Graduate Faculty Scholars Policy for this information.

Dissertation Preparation

Thesis and Dissertation (ETD) describes university requirements and formatting instructions for dissertations and outlines the steps graduate students must follow in order to submit their dissertations electronically to the UCF College of Graduate Studies. The Thesis and Dissertation Office offers online and face-to-face workshops to inform graduate students about procedures, deadlines, and requirements associated with preparing a dissertation. Students who have just passed Candidacy are strongly encouraged to visit the online workshop.

Dissertation students will submit their dissertations electronically. Electronic thesis/dissertation (ETD) submissions will be archived by the UCF library in digital format and will be more widely accessible. In addition, students may use video and audio clips as well as other formats that may be appropriate for their field of study.

All dissertations that use research involving human subjects, including surveys, must obtain approval from an independent board, the Institutional Review Board (IRB), for this prior to starting the research. Graduate students and the faculty that supervise them are required to attend training on IRB policies, so this needs to start well in advance of the research start date. It is imperative that proper procedures are followed when using human subjects in research projects. Information about this process can be obtained from the Office of Research and Commercialization (www.research.ucf.edu). Click on "Compliance" and the *IRB Policy and Procedures Manual* is available. In addition, should the nature of the research or the faculty supervision change since the IRB approval was obtained, then new IRB approval must be sought. Failure to obtain this prior approval could jeopardize receipt of the student's degree.

Students who wish to complete their degree requirements in a given semester must take their oral defense and submit their dissertation to the UCF College of Graduate Studies by the dates shown in the Academic Calendar.

Dissertation Defense

The dissertation defense is an oral presentation and defense of the written dissertation describing the students research. The advisory committee will evaluate and judge the dissertation defense. Successful students must demonstrate that they are able to conduct and report original independent research that contributes substantially to the discipline in which they study. The defense is a formal academic requirement and should be accorded respect and dignity, and thus, no refreshments or other distractions should be served during the defense.

The dean of the college or his/her designee will normally attend all dissertation defenses. Dissertations will be approved by a majority vote of the dissertation advisory committee. Further approval is required from the Dean or Dean designee and the UCF College of Graduate Studies before final acceptance of the dissertation in fulfilling degree requirements.

Dissertation Virtual Defense

Graduate programs may elect to offer the option of a virtual ***dissertation*** defense (student off-campus defense) upon approval of the program coordinator/director, the department, and the college. Programs that choose to offer the option of a virtual defense must develop and ensure procedures for the implementation of the virtual defense process and procedures must be published in the programs handbook. These procedures should address the form and time for the students request for a virtual defense, the process for seeking approval, the teleconferencing facilities and equipment to be used, the availability of technical support during the defense, alternative plans if needed, and other relevant issues. Use of a web conferencing platform like Lync or Adobe Connect is recommended as is the preparation of participants and testing of the system prior to the defense date. Students must also seek approval for a virtual defense by the time they file the intent to graduate. It is expected that at minimum the dissertation committee chair will be present at the campus location of the public defense. Individual programs may add further restrictions or requirements for students to proceed with virtual defenses.

Review for Original Work

The university requires all students submitting a dissertation as part of their graduate degree requirements to first have their electronic documents submitted through iThenticate for advisement purposes and for review of originality. The dissertation chair is responsible for scheduling this submission to iThenticate and for reviewing the results from iThenticate with the student's advisory committee. The advisory committee uses the results appropriately to assist the student in the preparation of their dissertation.

Before the student may be approved for final submission to the university, the dissertation chair must indicate completion of the Review for Original Work through iThenticate by signing the Dissertation Approval Form.

Dissertation Dissemination

While UCF respects the wishes of students who would like to publish their work and/or apply for patents, it is essential for scholarly research conducted at a university to be available for dissemination. While several options are available for the release of an ETD, it is the goal of the university that all dissertations be available through the UCF Libraries catalog. Students with potential patent concerns are required to discuss the following options with their dissertation adviser and indicate the availability choice on the Thesis and Dissertation Release Option electronic form, which the student submits in the myUCF Student Center.

For those with no patent or copyright concerns:

- Immediate worldwide dissemination with no restrictions.

For those who have patent issues, dissemination options must be discussed and agreed to with your adviser. Choices are:

- Pending dissemination of the entire work for six months for patent or other proprietary issues, with an additional six months extension available. Once the patent and proprietary issues are resolved, then immediate worldwide dissemination with no restrictions.
- Pending dissemination of the entire work for six months for patent or other proprietary issues, with an additional six months extension available. Once the patent and proprietary issues are resolved, choosing this option allows the student to make the dissertation available to the university community for the period chosen below, and then for it to be distributed via the Web beyond that time.
    - one year
    - three years*
    - five years*

For those who have copyright concerns, dissemination options are a student decision within the guidelines of individual departments that may have requirements for dissemination. If a department has no guidelines for dissemination, then students are free to choose one of the options below. In general, those in the sciences and engineering will choose one year while students in the arts and humanities may choose longer. Choosing this option allows the student to make the dissertation available to the university community for the period chosen below, and then for it to be distributed via the Web beyond that time.

- one year
- three years*
- five years*

*Does not require dissertation adviser signature and approval.

Public Access

Students, faculty, staff, and other interested parties are strongly encouraged to attend dissertation final defense sessions. Notices providing date, time, and location of such meetings must be distributed to all academic departments.

These sessions are educational and informative for graduate students and provide an opportunity for colleagues to observe the work of their peers with students. At the discretion of the Chair of the Committee, questions may be invited from the audience. That part of the session involving committee discussion leading to a vote on the acceptance of the work will be closed. Sessions may be recessed briefly to excuse visitors and the candidate before this stage begins.

Admissions

Overview

The UCF College of Graduate Studies coordinates the admission process with each of the graduate program directors to admit prospective students to graduate study. The College of Graduate Studies also admits students who are applying as nondegree-seeking students.

In order to enroll in graduate classes, students must have obtained a baccalaureate or higher degree, prior to the start of the term for which the student is admitted, from a regionally accredited U.S. institution or from a recognized foreign institution. Students without a baccalaureate or higher degree from a regionally accredited U.S. institution or a recognized foreign institution are not admitted to graduate degree programs, graduate certificate programs, or graduate nondegree status. The College of Business Administration requires that all degrees must have been earned from a regionally accredited U.S institution or a recognized foreign institution.

Admission to the University

The admission process begins with the receipt of the Graduate Online Application for Admission along with all application requirements. In order to be considered for admission to a graduate program, the following information must be submitted and on file in the UCF College of Graduate Studies by the stated application deadline: application, residency, and any application requirements specified by the program. These documents become part of UCF's files and will not be returned to or copied for the applicant. All application requirements, aside from transcripts and test scores, must be submitted together with the online application. Transcripts and test scores must be official.

For specific graduate program information, refer to the appropriate program descriptions in the Graduate Programs section of this catalog. Program application deadlines are listed for each graduate program. Some programs require a pre-application and may require additional documents as part of this process.

NOTE: All graduate programs require that all application requirements (application form, residency form, recommendations, essay/personal statement, resume) be submitted online simultaneously by the stated application deadline. Official test scores (if required) must be sent directly from ETS/Pearson Vue to the UCF College of Graduate Studies (institution code 5233 for GRE and TOEFL; institution code RZT-HT-58 for GMAT). Official transcripts should be sealed in an envelope by the registrar of the former institution and sent directly to the UCF College of Graduate Studies, P.O. Box 160112, Millican Hall 230, Orlando, FL 32816-0112.

Once the online application and all application requirements are received, the UCF College of Graduate Studies will send you an e-mail notifying you of its receipt. Actual processing of the application, however, is not initiated until the application fee and other application requirements are received in the UCF College of Graduate Studies. The College of Engineering and Computer Science encourages prospective students to pre-apply to their graduate programs prior to beginning the university application process. The College of Optics and Photonics require a pre-application prior to beginning the university application process. Please refer to the graduate program's admissions information in order to become familiar with the procedures specific to each program.

When all application requirements are received by the stated deadline and processed by our office, the appropriate graduate program reviews it in order to make an admission recommendation. Acceptance into a graduate program will be granted by the UCF College of Graduate Studies.

Nondegree-seeking applicants will receive notice of acceptance to the university and registration information from the UCF College of Graduate Studies. Admission as a nondegree student does not constitute admission to a graduate program or graduate certificate program.

Readmission to the University

A regularly admitted student who has not been registered for three consecutive semesters must apply for readmission to the same graduate program through the UCF College of Graduate Studies. Readmission is also required if a student has been previously dismissed from a graduate program and wishes to gain entrance back into that same program. Students seeking readmission must complete the online application along with all application requirements. An application processing fee is required. Please refer to the Graduate Programs section to ensure that you have not missed the deadline for your program. Readmissions are not guaranteed.

U.S. Citizens and Resident Aliens

The application for admission to a graduate program is submitted electronically through the online application. The College of Optics and Photonics require that you fill out their preapplication form before completing the online application for graduate admission. The College of Engineering and Computer Science encourages prospective students to pre-apply before completing the online application for graduate admission.

- College of Engineering and Computer Science pre-application: www.graduate.cecs.ucf.edu
- College of Optics and Photonics pre-application: http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx

U.S. citizens and resident aliens in the United States must submit the following application requirements directly to the UCF College of Graduate Studies:

- Graduate Online Application for Admission (electronically signed and submitted by the applicant).
- Residency Classification form (submit with online application).
- A $30 nonrefundable application fee is required of all applicants for each application submitted.
- One official transcript (in a sealed envelope) from each college/university attended. **For UCF students applying to UCF graduate programs:** You do not need to request transcripts of your UCF course work. The UCF College of Graduate Studies will request those transcripts internally.
- Graduate Record Examination scores (GRE) or General Management Admission Test (GMAT) scores for doctoral applicants and for those applying to master's programs that require an admissions test. These scores must be sent directly to UCF by the appropriate testing agency.
- Test of English as a Foreign Language (TOEFL) scores sent directly to UCF, if an applicant is from a country where English is not the only official language, or when an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will also accept International English Language Testing System (IELTS) scores.
- Recommendations, if required by the graduate program (complete this section of the online application).
- Resume, essay, or other materials if required by the graduate program (must be submitted as part of the online application).
- Immunization Form*.

Some graduate programs may require interviews, portfolios, or other material. Official application requirements (or duplicate copies) should not be submitted directly to the graduate programs as it will delay the processing of the application. All official application requirements, with the exception of test scores and transcripts must be submitted online. The UCF College of Graduate Studies must receive the application and all application requirements by the stated application deadline.

*To expedite processing of materials, download and print the Immunization Form from the online application. Send the completed form to the address specified on the form. This form is not used in making an admission decision. However, you will not be allowed to enroll at UCF without submitting the Immunization Form. Please visit the UCF Health Services website for additional information regarding this required form.

Nondegree-seeking Students

If you are interested in taking graduate courses at UCF for personal or professional enhancement or to prepare for possible admission to a graduate program, you may enroll as a nondegree-seeking student. An online application must be submitted.

Nondegree-seeking students must submit the following application requirements directly to the UCF College of Graduate Studies:

- Graduate Online Application for Admission (electronically signed and submitted by the applicant).
- Residency Classification form (submit with online application).

- A $30 non-refundable application fee is required of all applicants for each application submitted.
- One official transcript (in a sealed envelope) showing an earned bachelor's degree from a regionally accredited institution. **For UCF students applying as nondegree-seeking:** You do not need to request transcripts of your UCF course work. The UCF College of Graduate Studies will request those transcripts internally.
- Immunization Form*

The UCF College of Graduate Studies must receive the online application and all application requirements electronically (with the exception of transcripts) by the stated application deadline.

Please note that nondegree admission or admission to a graduate certificate program at UCF does not guarantee admission to graduate status in a degree program. International students are not eligible for nondegree status unless they hold an eligible visa. International students taking online courses from their home country are eligible to be nondegree-seeking since they do not require a visa.

Not all graduate degree programs accept nondegree-seeking students. Please contact the program director for the graduate program you wish to take classes in before beginning the online application process to verify if the program accepts nondegree-seeking students and if specific enrollment instructions apply for graduate-level courses.

In general, nondegree-seeking students are not eligible for financial aid, assistantships, fellowships, or tuition support, although it is best to check with the Office of Student Financial Assistance for specific details. Nondegree-seeking students must be enrolled in 12 credit hours or more to be considered in full-time status.

*To expedite processing of materials, download and print the Immunization Form from the online application. Send the completed form to the address specified on the form. This form is not used in making an admission decision. However, you will not be allowed to enroll at UCF without submitting the Immunization Form. Please visit the UCF Health Services website for additional information regarding this required form.

Transient Students

Students attending UCF for a term from another institution where they are receiving their graduate degree are classified as transient students. Transient students can apply online as a Nondegree-seeking student. An online application must be submitted.

Application requirements for transient students are:

- Graduate Online Application for Admission (electronically signed and submitted by the applicant; select "Nondegree (General)").
- A $30 non-refundable application fee is required of all applicants for each application submitted.
- Residency Classification form (submit with online application).

- An official transcript (in a sealed envelope) showing an earned bachelor's degree from a regionally accredited institution OR a letter from your home institution stating that you are in good academic standing and that the institution will accept the transfer of the hours.
- Immunization Form*

The UCF College of Graduate Studies must receive the online application and all application requirements electronically (with the exception of transcripts) by the stated application deadline.

*To expedite processing of materials, download and print the Immunization Form from the online application. Send the completed form to the address specified on the form. This form is not used in making an admission decision. However, you will not be allowed to enroll at UCF without submitting the Immunization Form. Please visit the UCF Health Services website for additional information regarding this required form.

Certificate Students

If you are interested in taking graduate courses at UCF in a specialized or interdisciplinary area, you may enroll in one of our many graduate certificate programs. In order to apply to a certificate program, complete the online application.

Application requirements for certificate students are:

- Graduate Online Application for Admission (electronically signed and submitted by the applicant).
- A $30 non-refundable application fee is required of all applicants for each application submitted.
- Residency Classification form (submit with online application).
- One official transcript (in a sealed envelope) showing an earned bachelor's degree from a regionally accredited institution. **For UCF students applying for a certificate:** You do not need to request transcripts of your UCF course work. The UCF College of Graduate Studies will request those transcripts internally.
- Immunization Form*

The UCF College of Graduate Studies must receive the online application and all application requirements (with the exception of transcripts) electronically by the stated application deadline.

If you are a regular graduate student in a graduate degree program and wish to supplement your degree with a graduate certificate, you may do so by completing the online application indicating the graduate certificate program you are interested in. **In order to complete a graduate certificate program, a student must apply and be admitted to a specific graduate certificate program.** International students on an F-1 visa may not be accepted solely into a certificate program unless they are concurrently enrolled in a graduate degree program, in the English Language Institute at UCF or are attending UCF as a transient student and hold an I-20 from an approved institution.

Students who choose to pursue both a degree and a professional graduate certificate must sustain normal academic progress toward the degree program.

*To expedite processing of materials, download and print the Immunization Form from the online application. Send the completed form to the address specified on the form. This form is not used in making an admission decision. However, you will not be allowed to enroll at UCF without submitting the Immunization Form. Please visit the UCF Health Services website for additional information regarding this required form.

International Students

The application for admission to a graduate program is submitted electronically through the online application. The College of Optics and Photonics require that you fill out their preapplication form before completing the online application for graduate admission. The College of Engineering and Computer Science encourages prospective students to pre-apply before completing the online application for graduate admission.

- College of Engineering and Computer Science pre-application: www.graduate.cecs.ucf.edu
- College of Optics and Photonics pre-application: www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx

If you are not a U.S. citizen or resident alien, you must submit the following application requirements directly to the UCF College of Graduate Studies:

- Graduate Online Application for Admission (electronically signed and submitted by the applicant by the stated application deadline).
- A $30 non-refundable application fee, paid as a check or money order in U.S. currency drawn on a U.S. bank and made payable to the University of Central Florida, is required of all applicants for each application submitted.
- One official transcript (in a sealed envelope) showing a bachelor's degree earned at a regionally accredited U.S. institution or from a recognized foreign institution, accompanied by an official certification of degree, with date awarded. If a student has attended more than one college or university, separate transcripts must be submitted.
- Residency Classification form (submit with online application)
- The university conducts a complete assessment of all required credential documents (official transcript(s) and official certification of degree) submitted by the student, including the record of all academic course work. Excluding the Physical Therapy DPT program, all master's programs not requiring a standardized admissions test (i.e. GRE, GMAT), and those master's programs in the College of Business Administration and the Rosen College of Hospitality Management, the university will evaluate all credentials for international students who have received their degree at a college or university outside of the United States. Additional information is available in the Transcripts Evaluation section on this webpage.
- Graduate Record Examination scores (GRE) or General Management Admission Test (GMAT) scores for doctoral applicants and for those applying to master's programs that require an admissions test. These scores must be sent directly to UCF by the testing agency.
- Test of English as a Foreign Language (TOEFL) scores sent directly to UCF, if an applicant is from a country where English is not the only official language, or when an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will also accept International English Language Testing System (IELTS) scores.
- Financial Statement with a letter indicating commitment (from your parents, government, or others) to financially support your education.
- Recommendations, if required by the graduate program (complete this section of the online application).
- Resume, essay, or other material, if required by the graduate program (must be submitted as part of the online application).
- Immunization Form*

Some graduate programs may require interviews, portfolios, or other materials. Official application requirements (or duplicate copies) should not be submitted directly to the graduate programs as it will delay the processing of the application. All official application requirements, with the exception of test scores and transcripts, must be submitted online. The UCF College of Graduate Studies must receive the application and all application requirements by the stated application deadline.

*To expedite processing of materials, download and print the Immunization Form from the online application. Send the completed form to the address specified on the form. This form is not used in making an admission decision. However, you will not be allowed to enroll at UCF without submitting the Immunization Form. Please visit the UCF Health Services website for additional information regarding this required form.

International Student Admissions Policies

UCF adheres to the principle that the university is primarily a community of scholars, both national and international, in pursuit of knowledge, and active in teaching, studying, and doing research. The presence of international students on the campus contributes substantially to the quality of the educational experience for everyone. It can bring to the classroom learning environment unique viewpoints and perceptions that would otherwise be lost. Effective personal contact across cultures can reduce errors in understanding one another's problems and foster a climate of international peace and cooperation among people of the world today.

To expedite the application process, international applicants should submit all documents (application, test scores, letters of recommendation, transcripts, etc.) under the same name, preferably the name as it is listed on the official passport. Upon receiving an application, the UCF College of Graduate Studies assigns a student identification number (for example, 828-XX-XXXX). This number should be included whenever possible in all correspondence. International students are not eligible for nondegree/certificate status unless they hold an eligible visa.

Additional information regarding immigration processes and transition to the UCF community is available from UCF Global. It is to be noted that due to federal regulations around international student visas 8 CFR 214.3(k), the College of Graduate Studies will only admit international graduate students in a degree program under the **Graduate Status Regular** and must meet all relevant admission criteria under this status.

International applicants are encouraged to begin the application process early. Also, international applicants should ensure that all application requirements, including those required to issue an I-20, are received by the stated application deadline. Only official documentation is accepted and it is the student's responsibility to submit all documents by the application deadline.

Official Transcripts

All applicants for graduate admission must provide one official transcript (in a sealed envelope) showing a bachelor's degree earned at a regionally accredited U.S. institution or an internationally recognized institution and an official diploma/degree certificate, with date awarded. If a student has attended more than one college or university, separate transcripts must be submitted for each institution. To be official, transcripts and diploma/degree certificate must bear the original seal or signature of the school's registrar or of the appropriate school official or office. To ensure the timely evaluation of academic credentials, applicants should submit all transcripts, accompanied by diploma/degree certificate, at the time of application and by the stated application deadline.

Transcript Evaluation

Evaluation Policy

The university conducts a complete assessment of all required credential documents (official transcripts and official certification of degrees) submitted by the student, including the record of all academic course work. Excluding the Physical Therapy DPT program, Communication Sciences and Disorders MA program, all master's programs not requiring a standardized admissions test (i.e. GRE, GMAT), and those master's programs in the College of Business Administration and the Rosen College of Hospitality Management, the university will evaluate all credentials for international students who have received their degree at a college or university outside of the United States. Additional information regarding specific application requirements and credentials processing for the Physical Therapy DPT program, Communication Sciences and Disorders MS program, those master's programs not requiring a standardized admissions test, and for all master's programs in the College of Business Administration and the Rosen College of Hospitality Management is given below.

The university does not consider documents certified by a notary public or commissioner of oaths to be official. Photocopies of certified documents are not acceptable. Course work completed at one institution but listed on the record of a second institution is not acceptable. A separate copy of the record from the first institution is required.

If these documents are written in a language other than English, a certified translation in English must be provided together with the original language records. Any translated record should be a literal and not an interpretive translation. Acceptable English translations may be provided by sworn court-approved translators, qualified translators working within university foreign language departments, and from reputable translation agencies. We recommend the services of University Language Services (ULS) and Josef Silny and Associates, Inc. for certified translations.

If a student is missing any documentation, or other required information, an evaluator will contact the student by e-mail to request the additional documentation/information. In the case that a student is missing documentation/information, the evaluation process will be placed on hold until the university has received all necessary documentation. All students are advised to submit all required documentation as early as possible so as to not to delay the evaluation process.

In the event that the university receives documentation that is questionable, or suspicious in any way, the university will verify authenticity with the issuing foreign institution. If an institution must be contacted for verification, the evaluation process will be placed on hold until the university has received all necessary information.

Equivalency Information

All international applicants for graduate study at the University of Central Florida must hold a U.S. Bachelor's degree, or its equivalent, from a regionally accredited or governmentally recognized institution of higher learning. This is a minimum requirement for admission to a graduate program at UCF. For a list of some country-specific information on foreign degree equivalents and required documentation, please visit the Sample Country Requirements website.

The following requirements apply to applicants to the Physical Therapy DPT program, the Communication Sciences and Disorders MA program, any master's programs not requiring a standardized admissions test, and master's programs in the College of Business Administration and Rosen College of Hospitality Management:

In addition to official transcripts and certification of degrees, a course-by-course credential evaluation with GPA calculation is required of all students who have attended a college/university outside the United States. Credential evaluations are accepted from Josef Silny and Associates, Inc. or World Education Services (WES) only. All documents required by World Education Services (WES) or Josef Silny and Associates, Inc., must be submitted directly by the applicants. The university is not responsible for forwarding any documents received by our office to Josef Silny and Associates, Inc. or World Education Services (WES).

Resources for International Transcript Evaluations

UCF accepts transcript evaluations from the following two agencies only:

- Josef Silny and Associates, Inc.

- World Education Services, Inc.

Documents Needed to Issue an I-20

Refer to the Global UCF website for information on policies and documents needed to issue an I-20. All documents needed to issue an I-20 must be received by the stated application deadline.

For additional questions about documents required for I-20 issuance, you may contact the Global UCF office by e-mail (INTLadmissions@ucf.edu) or by telephone (407) 823-2337.

International Application Deadlines

Complete applications (including all application requirements) for all graduate programs must be received electronically by the date listed below to be considered for admission for that term. Failure to meet these deadlines may prevent admission as a regular graduate student for the term. **Please refer to the Graduate Programs section in this catalog for programs that have earlier deadlines for international applicants.**

The following dates are university application deadlines for international students (students from abroad):

Fall admission: January 15
Spring admission: July 1
Summer admission: November 1

The following dates are university application deadlines for international transfer students (transfers from U.S. schools):

Fall admission: March 1
Spring admission: September 1
Summer admission: December 15

In addition, students who wish to be considered for fellowships or assistantships must have a complete application package by January 15 (or the designated Fall Priority date for their program).

Test of English as a Foreign Language

International students, except those who are from countries where English is the only official language, those who have earned a degree from a regionally accredited US college or university, or those who have earned a degree from a country where English is the only official language or a university at which English is the only official language of instruction, are required to submit a score on the Test of English as a Foreign Language (TOEFL) before they can be admitted to the university. Although we prefer the TOEFL, we will also accept International English Language Testing System (IELTS) scores. Students who are non-native speakers of English (and do not have a degree from a U.S. institution) must pass the SPEAK exam administered by the UCF Center for Multilingual Multicultural Studies before they will be permitted to teach as a Graduate Teaching Associate or Graduate Teaching Assistant.

A TOEFL computer-based score of 220 or 80 on the internet-based TOEFL (or equivalent score on the paper-based test) or 6.5 on the IELTS is required unless otherwise specified by the program. The list below includes programs that have determined a minimum required TOEFL or IELTS score higher than the university requirement.

Program	TOEFL (Paper)	TOEFL (Computer)	TOEFL (iBT)	IELTS
College of Arts and Humanities				
English	577	233	91	7
History	577	233	91	7
College of Sciences				
Biology	573	230	89	7
Security Studies PhD	575	232	90	7
College of Business Administration	577	233	91	7

International Student Mandatory Health and Accident Insurance

Each international student accepted for admission must, prior to registration, submit proof of compliance with the Board of Education's mandatory health and accident insurance. There are no exceptions made for submitting this proof. Written proof of insurance must be provided to the Student Health Services Center and must be valid at all times. Cancellation of the policy or stoppage of the premium will result in administrative withdrawal from all classes. If an insurance carrier from outside of the United States issues the insurance, a notarized statement, in English, must be provided attesting to meeting the minimum coverage mandated by the state of Florida.

If an insurance carrier from outside of the United States issues the insurance, a notarized statement, in English, must be provided attesting to meeting the minimum coverage mandated by the state of Florida.

For additional information regarding student health insurance, contact the UCF Health Services.

Tax Obligations

The Internal Revenue Service (IRS) is the U.S. government institution that oversees the withholding and filing of taxes. International students are not always exempt from income taxes in the United States. To determine your tax obligations, students should visit the IRS website.

Upon arrival at UCF, international students will be required to apply for a Social Security Number (SSN) or Individual Taxpayer Identification Number (ITIN) and provide this number to the Registrar's Office at UCF. The International Services Center will help international students complete the paperwork required for their visa and SSN or ITIN.

International students who will have graduate assistantships will not be allowed to begin work until the department or program submits the valid SSN and assistantship paperwork to UCF Human Resources.

International students who are to receive tuition support or fellowships must provide a valid SSN to the Registrar's Office before payment processing can occur. Those with fellowships must also complete additional paperwork with the UCF Finance and Accounting Office. Deferments for tuition and fellowship awards will be placed on the student's account, but payment cannot occur until all required paperwork is completed and the valid SSN has been provided to the Registrar's Office.

Employment of International Students

International students must have their I-20 authorized by the International Services Center for any on-campus or off-campus employment. Approved on-campus employment must be validated by presenting all immigration documents and Social Security Number to the UCF Human Resources (HR) Department. International students are not allowed to start employment until they present receipt of Social Security Card application or Social Security Number issued to them by the Social Security Administration.

For detailed information on employment and taxation, visit the websites of UCF Human Resources and UCF Finance and Accounting.

Information for All Applicants

Application Forms

The application for admission to a graduate program is submitted electronically through the online application. A nonrefundable application fee is required of each applicant for each application submitted.

Official Transcripts

To be granted admission to UCF in graduate or nondegree status, all applicants must request official transcripts (in a sealed envelope) from their previous institution showing a baccalaureate degree and their grades in all work attempted while registered as an undergraduate student OR while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours). Transcripts must be mailed directly from the previous institution to the UCF College of Graduate Studies.

For UCF students applying to UCF graduate programs: You do not need to request transcripts of your UCF course work. The UCF College of Graduate Studies will produce those transcripts internally.

If grades were transferred from other schools in the last 60 semester hours, official transcripts from those schools also must be obtained and submitted. If applying to Business, Social Work, or Psychology, all transcripts from all colleges attended are required. Final acceptance into degree-seeking graduate status is not granted unless an applicant's official transcripts are on file so that they can be evaluated for admission.

Graduate Examinations

All students who wish to be admitted in regular degree-seeking status to a doctoral program or wish to be considered for university-wide fellowships must submit an official GRE General Test score (or an official GMAT score as required). Some master's level programs may also require the GRE or GMAT for admission. Some graduate programs may also require the GRE subject test before admission into graduate student status.

International students, except those who are from countries where English is the only official language, those who have earned a degree from a regionally accredited US college or university, or those who have earned a degree from a country where English is the only official language or a university at which English is the only official language of instruction, are required to submit a score on the Test of English as a Foreign Language (TOEFL). Although we prefer the TOEFL, we will also accept International English Language Testing System (IELTS) scores.

Official test scores must be electronically forwarded to the UCF College of Graduate Studies directly from the appropriate testing agency. Test scores must be on file by the stated application deadline. UCF recommends that any individual contemplating class work beyond the bachelor's degree take the GRE or GMAT at the earliest possible date to avoid problems associated with a delay of acceptance into a graduate program. Test scores are usually available in four to six weeks.

Registration Information and Resources:

- **GMAT Services** -- 1-800-GMAT-NOW | www.mba.com/us | UCF Institution Code: RZT-HT-58
- **GRE Services** -- 1-800-GRE-CALL | www.ets.org | UCF Institution Code: 5233
- **TOEFL Services** -- 1-800-GO-TOEFL | www.ets.org | UCF Institution Code: 5233
- **IELTS Services** -- 1-626-564-2954 | www.ielts.org
- Preparatory courses are offered through UCF's Division of Continuing Education -- (407) 882-0260 | www.ce.ucf.edu

Pearson Vue and the Educational Testing Service's policy are to report scores only until September 30 following the fifth anniversary of the test date. In other words, test scores are only valid for five years. If ETS/Pearson Vue cannot provide an official copy, students will need to repeat the GRE or GMAT and have an official score reported to the UCF College of Graduate Studies. Test of English as a Foreign Language (TOEFL) scores are only valid from ETS for two years.

Medical History Report

All new students must furnish medical history reports on the approved university Immunization Form before registration will be allowed. The Immunization Form is available from the UCF Health Services. This form should be completed and mailed to the address on the form. Immunizations and diagnostic procedures may be required of students by the university prior to any registration. University requirements for vaccinations or immunizations may be waived upon receipt of appropriate documentation from the student that the waiver is requested on the basis of religious grounds or on the recommendation of a university physician.

Where physician examinations or certificates are required, they must be signed by a doctor of medicine or by a doctor of osteopathy. The university reserves the right to refuse registration to any student whose health record or report of medical examination indicates the existence of a condition that may be harmful to members of the university community.

Validity of Application Requirements

If the university finds that an applicant has made a false or fraudulent statement or a deliberate omission on the application, residency affidavit, health report, or any accompanying document or statement, that applicant will be denied admission. If the student is enrolled when such fraud is discovered, the student may be immediately withdrawn (with no refund), denied further enrollment, and invalidated on credit and any degree based on such credit. International students may face deportation. Actions for this type of offense are handled administratively by the Division of Student Development and Enrollment Services after notification to the alleged violator and hearing by that office.

Deadline for Application Requirements

If the graduate program has a specific deadline, the application and all application requirements must be received electronically by that deadline (see the Graduate Programs section in this catalog). For all other programs and nondegree applicants, the application and all application requirements should be received by the UCF College of Graduate Studies no later than July 15 for fall admission, December 1 for spring admission, or April 15 for summer admission. For international applicants, all application requirements should be received by the UCF College of Graduate Studies and all documents required to issue an I-20 be received by the International Service Center no later than January 15 for fall admission, July 1 for spring admission, and November 1 for summer admission. In some cases, applicants may be allowed to register on a temporary basis (without all application requirements), assuming it can be determined from available records or consultation with the students that they appear admissible. Failure to submit records by mid-term of the first semester will result in registration holds for all succeeding terms. Transcripts should be sealed in an envelope by the registrar of the former institution and mailed directly to the UCF College of Graduate Studies.

Change of Major

When students wish to change their major or college, after having applied and/or been admitted to a graduate program, they must file a new online application and submit all application requirements for their intended new program at the UCF College of Graduate Studies. A new application processing fee is required. The program director of the new graduate program will then review the student's application file and make an admission recommendation.

Second Master's Degree

Individuals seeking a second master's degree must file a separate online application and application fee for that graduate program and complete the normal UCF master's degree application requirements for the second degree.

Up to nine semester hours from a completed master's program at UCF or any other institution may be transferred into a second master's program if the courses are not more than seven years old when the second degree is completed.

Admission Decisions

After receiving all official transcripts, standardized test information, and other documents required by the program, the graduate program director will make an admission recommendation. Admission to graduate status can be in any one of the following categories: regular, conditional, provisional, provisional/restricted, provisional/conditional, restricted, or restricted/conditional status.

Final admission to a graduate program is granted by the UCF College of Graduate Studies. Admission is only valid for the term in which the student is admitted. If the student does not enroll in their first term of admission, their admission will be revoked and they will need to reapply to a future term.

Admission Classifications

Graduate Status Regular

All students who wish to be admitted in regular degree-seeking status or nondegree-seeking status must submit a final, official transcript from a regionally accredited US institution or its equivalent from a foreign institution. All students who wish to be admitted in regular degree-seeking status to a doctoral program or wish to be considered for university-wide fellowships must also submit an official GRE General Test score or an official GMAT score as required. The minimum university application requirements for admission to regular graduate status are listed below. Individual graduate programs may specify additional application requirements.

- A bachelor's degree from a regionally accredited U.S. institution or its equivalent from a foreign institution and a GPA of 3.0 or more (on a 4.0 maximum) in all work attempted while registered as an undergraduate student OR while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours); OR, a graduate degree or professional degree or equivalent from a regionally accredited U.S. institution or its equivalent from a foreign institution in a field related to the discipline of the program to which the student is applying.
- Students applying to doctoral programs must submit a competitive score on the General Test of the Graduate Record Examination or a competitive score on the Graduate Management Admission Test (as required) or an equivalent score on an equivalent

measure approved by the graduate program and the university.

- Students applying to doctoral programs must also submit three letters of recommendation, a resume or curriculum vita, and a written essay.
- A student must be accepted by the program director offering the particular degree program sought and the UCF College of Graduate Studies. Graduate programs are encouraged to have more restrictive application requirements than the minimum university application requirements. Graduate program requirements may be based on other factors such as work experience, research interests of the prospective student, evidence of extracurricular or community work, personal interviews, or other factors specified by the program.
- International students must demonstrate their proficiency in the English language. International students, except those who are from countries where English is the only official language, those who have earned a degree from a regionally accredited US college or university, or those who have earned a degree from a country where English is the only official language or a university at which English is the only official language of instruction, are required to submit a score on the Test of English as a Foreign Language (TOEFL) and achieve a score on the computer-based test of 220 or 80 on the internet-based TOEFL (or equivalent score on the paper-based test) or IELTS before they can be admitted to the university. Although we prefer the TOEFL, we will accept IELTS scores of 6.5 or higher unless otherwise specified by the program.
- International students applying to master's programs that do not require a GRE or GMAT, must submit a course-by-course evaluation with GPA calculation of their official transcripts from a credential evaluation service recommended by UCF. This course-by-course evaluation must show a GPA that is equivalent to a 3.0 from an earned degree that is equivalent to a U.S. bachelor's degree.
- It is to be noted that due to federal regulations around international student visas 8 CFR 214.3(k), the College of Graduate Studies will only admit international graduate students in a degree program under the **Graduate Status Regular** and must meet all relevant admission criteria under this status.

Graduate Status Conditional

A student who meets the minimum university application requirements for regular admission (as listed above) but has not submitted all required documents may be admitted conditionally upon recommendation of the program director to which admission is sought and the UCF College of Graduate Studies. Conditions must be met by mid-term of the first semester. Registration will only be available for the term the student has been admitted. Future term enrollment will be open once the conditions are met. At that time, the student will be changed to regular graduate status.

Graduate Status Restricted

Even though minimum university application requirements are met, a graduate program may attach restrictions to the admission of an applicant, such as higher GPA requirements, completing a standardized test, completing certain prerequisite courses, maintaining a certain GPA in the first few hours of a graduate program, etc. Students may be denied admission to regular graduate status if the restrictions are not met.

Students who have a graduate GPA less than 3.0 while in graduate status or that have been placed on probation or dismissed from a program at UCF and are admitted into a new program will be admitted into the new program in restricted graduate status.

Graduate StatusProvisional

A student who does not fulfill the minimum university application requirements for regular admission (as listed above) may be admitted provisionally upon recommendation of the program director to which admission is sought and the UCF College of Graduate Studies.

Provisional students may be admitted to regular status following satisfactory completion of nine semester hours, in the graduate program and upon recommendation by the program director and Vice Provost and Dean of the UCF College of Graduate Studies.

Graduate StatusRestricted/Conditional

Even though minimum university application requirements are met, a program may attach restrictions to the admission of an applicant, such as higher GPA requirements, completing a standardized test, completing certain prerequisite courses, maintaining a certain GPA in the first few hours of a graduate program, etc. Students may be denied admission to regular graduate status if the restrictions are not met. The student also has not submitted all application requirements for admission. All application requirements for admission must be submitted by mid-term of the first semester. Registration will only be available for the term the student has been admitted. Future term enrollment will be open once the conditions are met.

Graduate StatusProvisional/Restricted

A student who does not fulfill the minimum university application requirements for regular admission (as listed above) and has not met the graduate program's specific requirements may be admitted in provisional/restricted status upon recommendation of the program director to which admission is sought and the UCF College of Graduate Studies. A graduate program may attach restrictions to the admission of an applicant, such as higher GPA requirements, completing a standardized test, completing certain prerequisite courses, maintaining a certain GPA in the first few hours of a graduate program, etc.

Provisional/restricted students may be admitted to regular status following satisfactory completion of nine semester hours, in the graduate program and upon recommendation by the program director and Vice Provost and Dean of the UCF College of Graduate Studies AND satisfactory completion of the graduate program's restrictions. Students may be denied admission to regular graduate status if the graduate program's restrictions are not met.

Graduate StatusProvisional/Conditional

A student who does not fulfill the minimum university application requirements for regular admission (as listed above) and has not submitted all required documents for admission may be admitted in provisional/conditional status upon the recommendation of the program director to which admission is sought and the UCF College of Graduate Studies.

Provisional/conditional students may be admitted to regular status following satisfactory completion of nine semester hours, in the graduate program and upon recommendation by the program director and Vice Provost and Dean of the College of Graduate Studies AND the submission of all application requirements for admission. All application requirements for admission must be submitted by mid-term of the first semester. Registration will only be available for the term the student has been admitted. Future term enrollment will be open once the conditions are met.

Nondegree-seeking Status

Students are generally placed in this category at their request. International students are not eligible for nondegree status unless they hold an eligible visa status. A student may elect to remain in nondegree status for various reasons (e.g., requirements in a graduate program at another institution, personal improvement, meeting job requirements, and removing academic deficiencies).

While in nondegree-seeking status, students are allowed to take graduate courses, in some departments, on a space-available basis. Nondegree students may also enroll in specific graduate certificate programs. Not all departments accept nondegree students and the procedures for enrollment into graduate-level classes vary with each department. **Students should check with the individual departments or colleges before submitting an application and attempting to register.**

In general, Nondegree-seeking students are not eligible for financial aid, assistantships, fellowships, or tuition support, although it is best to check with the Office of Student Financial Assistance for specific details.

Graduate Certificate Status

Nondegree-seeking students or regular graduate students in a graduate degree program may enroll in one of UCF's graduate certificate programs. In all cases, certificate students must have earned a baccalaureate or higher degree, or equivalent, from a regionally accredited university. Unless they are also enrolled in a regular degree program, graduate certificate students are treated as nondegree seeking students. Students who pursue both a degree and a professional certificate must sustain normal academic progress toward the degree program. International students on an F-1 visa are not accepted solely into a certificate program unless they are concurrently enrolled in a graduate degree program, in the Intensive English Language Program at UCF or are attending UCF as a transient student and hold an I-20 from an approved institution.

Nondegree to Regular Graduate Status

Nondegree students wishing to apply to a graduate degree program must file a new online application and application fee for that degree program. The new online application and all application requirements must be submitted by the stated application deadline for the graduate degree program. Students who have been admitted in provisional status in a graduate degree program must file a new application if they wish to be accepted by a graduate degree program different from the program to which they were provisionally admitted.

Appeals

According to state and university regulations, students who are not accepted by a program but who meet the University minimum standards for admission to graduate status are permitted to appeal that decision. The appeal procedure consists of the student writing a letter within thirty days of the date of denial to the program director indicating the desire to appeal and the reasons for the appeal. The program director may ask the department or program graduate committee to examine the necessary information and recommend a response to the appeal. The program director will recommend an admission action to the department chair.

Should the department chair deny the appeal, and there are new circumstances, facts, or other matters that the student feels warrants consideration, the student may request further consideration from the graduate college by writing a letter to the Vice Provost and Dean of the UCF College of Graduate Studies indicating the desire to appeal further and the reasons why an appeal is sought. The Vice Provost and Dean of the UCF Graduate College may ask the Graduate Council to examine the necessary information and recommend a response to the appeal. The decision of the Vice Provost and Dean of the UCF College of Graduate Studies is final.

Residency

For information about Florida Residency for Tuition Purposes and Residency Reclassification, see theResidency for Tuitionsection of the Graduate Admissions Website.

Current Students/ Registration

Overview

UCF's registration system allows students to enroll for the entire upcoming academic year (3 semesters). This improves a student's ability to plan for upcoming terms and allows students more opportunity to make any necessary adjustments to registration. It is important for students to register for courses they plan to complete and fulfill requirements within their degree plan. Students are not required to register for all three terms during their initial appointment but the upcoming academic year will be available. For additional information regarding Multiple Term Registration (MTR), please visit the Registrar's Office webpage.

During each academic semester, registration is held for all new, currently enrolled, degree-seeking, and nondegree-seeking students for the following term. Registration sessions consist of Registration and Late Registration (held during the first week of classes each term).

Multiple term registration begins following mid-term of the spring semester for the following summer, fall, and spring terms. Class listings are available only online through the Class Schedule Search at my.ucf.edu. The dates and times for each registration period are included in the Academic Calendar.

Note: Newly admitted students (degree or nondegree) must register for classes in their first term in order to become and remain active. New students that do not enroll in classes in their first term will have their file inactivated and all future registration dropped. Once their file is inactivated, they will need to re-apply by completing a new online application and submitting a new application processing fee.

Please note that the last day to Drop classes is now one day before the last day to Add classes. Please visit the Registration page on the Graduate Students website for more information on registration and related topics.

Online Registration

Registration is available over the web using the myUCF system at my.ucf.edu and in the college advising offices.

UCF NID (Network Identification Number)

Students obtain the UCF NID Number on their first login to myUCF at my.ucf.edu. The initial login will use a default password. Following instructions, students choose a new password and reminder clue.

Web Enrollment Guide

The *Web Enrollment Guide* is published online once a year by the Registrar's Office. The *Web Enrollment Guide* provides the official "Academic Calendar" and describes the policies and procedures governing registration each term. The *Web Enrollment Guide* is available on the Registrar's Office website.

Immunization Form

All new first-term graduate students must have an Immunization Form completed before they are allowed to register at UCF. Holds placed on registration will be removed by the UCF Health Services once the Immunization Form is received. Forms may be obtained on the UCF Health Services website.

Continuing Graduate Students

Continuing graduate students register through myUCF after their assigned appointment day and time, which can be found in myUCF. All continuing students should register early. For graduate students with fellowships or assistantships, failure to register early may result in delays in receiving assistantship paychecks and sometimes result in the loss of tuition waivers. Continuing graduate students registering for internship, independent study, thesis or dissertation hours, or research report hours must fill out a Registration Agreement form obtained from their adviser or department office. The college graduate office will normally register students into these courses.

Enrollment of International Students

International students are required to seek advisement from UCF Global to ensure that their enrollment status meets full-time status in compliance with USCIS regulations. Students must obtain advisement from UCF Global before dropping or withdrawing from courses that would affect their enrollment status.

Nondegree-seeking Students

Before registering, all nondegree-seeking students should check with the departments where they want to take courses in to learn what is required for registration by that department. Certain classes are restricted, and it is best to find this out first. In the College of Education, nondegree-seeking students can ONLY register for 5000- and 6000-level classes. In the College of Business Administration, nondegree-seeking students cannot register for graduate courses. The College of Engineering and Computer Science will only allow nondegree-seeking students to register with special approval from the program director. Nondegree-seeking students who want to register for College of Arts and Humanities, College of Health and Public Affairs, College of Optics and Photonics, College of Sciences or Rosen College of Hospitality Management courses should check with the individual graduate programs for more detailed information.

Nondegree-seeking students must be registered for 12 hours to be considered full-time. Nondegree-seeking students who already have certification elsewhere (i.e., from a College of Education in another state) are not eligible to receive financial aid. In general, nondegree-seeking students are not eligible for financial aid, assistantships, fellowships, or tuition support, although it is best to check with the Office of Student Financial Assistance for specific details.

Holds

A hold (negative service indicator) may be placed on a student's records, transcripts, grades, diplomas or registration due to financial or other obligations to the University. Satisfaction and clearance of the hold is required before a release can be given. Students may check for holds on the myUCF system at my.ucf.edu. To obtain an immediate release for Student Accounts financial holds, you may make your credit card or e-check payment online from your student account. After making a successful payment, contact Student Account Services with the remit ID to confirm your payment and have your hold released.

To release UCF College of Graduate Studies holds, the students must provide the outstanding application requirement(s) to complete their records.

Audit Registration

Audit students are those who desire to attend class(es) without receiving academic credit. Regular tuition and fees are assessed for audit registration. See "Tuition and Fees" for more information about the cost of auditing classes at UCF. Audit registration is on a space-available basis at the assigned time of Registration or at any time during Late Registration and Add/Drop when Late Registration fees will apply. Audit requests for students who register prior to this time will be denied. Students may not change to audit status after Late Registration and Add/Drop, but must remain in the course or withdraw through normal withdrawal procedures. New students must be accepted for admission. Audit forms, available on the Registrar's Office website and in the Registrar's and college advising offices, must be signed by the instructor and presented to the Registrar's Office at the time of registration.

Senior Citizen Audit

Senior citizens (60 years of age or older) who have been residents of the State of Florida for at least one year as of the first day of classes may enroll tuition free as audit students (i.e., no academic credit) on a space-available basis. Forms to be completed include the "Residency Affidavit," the "Student Health History," and the "Senior Citizen Audit Application" and "Senior Citizen Audit Registration Form." These forms are available in the Registrar's Office (Millican Hall 161) or at the Registrar's Office website. It is necessary to complete the required forms during the last hours of registration as noted in the Academic Calendar. Direct student expenses after the completion of registration include the campus ID card, vehicle registration, and textbooks.

State Employee Registration

State of Florida employee enrollment into courses for which the employee will seek a tuition waiver will occur on a space-available only basis on the last day of registration each term at the time specified on the Academic Calendar. For waiver eligibility and application information, see the "Tuition Support" section.

UCF Employee Registration

UCF employee enrollment into courses for which the employee will seek a tuition waiver will occur on a space-available only basis on the last day of registration each term at the time specified on the Academic Calendar. For waiver eligibility and application information, see the "Tuition Support" section.

Fee Payments

All graduate students must pay their tuition and fees by the published fee payment deadline. If a department or college has not recorded tuition support by then, students must pay all tuition and fees. If a department or college has waived partial tuition and it is recorded, then students must pay the remainder of the tuition owed and all of the fees by the published deadline. It is important for graduate students to register early to provide the department or college enough time to record tuition support. Please visit the Student Accounts Information website for details on fee invoice and payment procedures.

Residency

For information about Florida Residency for Tuition Purposes and Residency Reclassification, visit the Costs and Residency page on the Graduate Student website.

Fee Invoices

The "Fee Invoice" is your verification of registration. You are not assured of being registered for any class until you print out your Fee Invoice/Schedule. Your fee invoice lists your fees and the classes in which you are registered. Please print a new invoice if you drop or add classes so that the invoice will reflect changes in your fees. Newly admitted students should review their Fee Invoice carefully. If a "non-resident" rate is added to your bill and you believe this is in error, please contact the UCF College of Graduate Studies as soon as possible. For information on Florida Residency for Tuition Purposes please visit the "Financial Information" section of this catalog. If you wish to pay your fees by credit card, press the "ePay fees" button, which will take you to the UCF online credit card payment system. Be sure to have your current address on file (see "Address and E-mail Changes," below).

You may print your "Fee Invoice" through myUCF at my.ucf.edu under the Student Accounts menu or at UCF Kiosks.

Mandatory Health Information

In order for a student to register, the State University System of Florida requires:

- All students born AFTER 1956 to present documented proof of immunity to measles (rubeola).
- All students UNDER the age of 40 to present documented proof of immunity to rubella (German measles).
- All students (REGARDLESS OF AGE) to submit a signed medical history form. Distance learning students who will never come to UCF or an area campus are only required to submit the medical history form.

Students are not allowed to register without proper health information documentation. Please refer to the Immunization Form for specific details of requirements and acceptable documentation. If you have questions, contact the Immunization Coordinator, UCF Health Services (phone: 407-823-3707; fax: 407-823-3135). Office hours for the UCF Health Services vary. Please visit the UCF Health Services website for additional information.

Name Changes

To change the legal name maintained on the student's official UCF record, the student must submit a completed "Change of Name" form and supporting documentation to the appropriate UCF office. Attach to the form a copy of a legal name change document (e.g., marriage certificate, divorce decree, etc.). Undergraduate students must submit the form to the Registrar's Office (Millican Hall 161). Graduate students must submit the form to the UCF College of Graduate Studies (Millican Hall 230). Current UCF employees and students who have been UCF employees within twelve months of the date the name change is requested must submit the form to the Human Resources Office (12565 Research Parkway). The "Change of Name" form is available from the Registrar's Office website or in Millican Hall 161.

Address and E-Mail Changes

To communicate in a more expedient manner, UCF uses e-mail as the primary means of notifying students of important university business and information dealing with registration, deadlines, financial assistance, scholarships, tuition and fees, etc., as described in Student Responsibility for University Communication in this catalog.

If the student's address changes, it is the student's responsibility to make the appropriate changes to the address through myUCF at my.ucf.edu or at any of the kiosks located on campus. Address and e-mail changes also can be made by submitting a Change of Address form or by writing the Registrar's Office, P.O. Box 160114, Orlando, FL 32816-0114 or fax to 407-648-5022. Written requests must be signed and the student number provided. Address changes can also be made by writing the UCF College of Graduate Studies, University of Central Florida, P.O. Box 160112, Millican Hall 230, Orlando, FL 32816-0112 or fax to 407-823-6442.

Transcript Requests

For UCF students applying to UCF graduate programs: You do not need to request transcripts of your UCF course work. The UCF College of Graduate Studies will request those transcripts internally.

Requests for official UCF transcripts are made through the Registrar's Office (in person, by mail, or by fax). "Transcript Request Forms" are also available on the Registrar's Office website. A student's academic record can be released only upon written authorization signed by the student. Telephone and e-mail requests are not accepted. Transcripts cannot be released if the student is on hold due to a financial obligation to the university. Transcript requests must include the student's signature, full name, identification number, and the name and complete address of the person(s) or organizations to whom transcripts are to be sent. If final grades or degree statement are needed, indicate that the transcript request is to be held until all requested data are posted.

A $10 per transcript charge is assessed for each transcript request. Payment for official transcripts is required at the time of request and may be satisfied by cash, check or money order (made payable to UCF), credit card, or UCF Card. Requests received by mail must be accompanied by a check, money order, or credit card information (i.e., card type, card number, 3-digit Security Number, expiration date, and the name to which the card is registered.) Cash payments can be accepted only by the Cashier's Office during that office's regular business hours. The UCF Card payment option is available only at the main Orlando campus and must be made in person at the Registrar's Office (MH 161). Mail written requests for transcripts to: Registrar's Office, Attn: Transcripts, P.O. Box 160114, Orlando, FL 32816-0114. For fax request information and payment procedures, refer to the Registrar's Office website or call 407-823-3100. Transcripts may be sent electronically to other Florida public institutions. Transcripts not claimed with 30 days of printing will be discarded and must be reordered. A $10 per reordered transcript fee must be submitted with the reorder request. Grades are available from myUCF.

Enrollment Certifications

Students may obtain their enrollment online through myUCF. Enrollment certification is free to currently enrolled students. Parents, employers, background checking firms, and other third party agencies may request enrollment and degree verifications online at http://www.degreechk.com/. A fee will be assessed for all such requests. UCF has contracted with *Credentials, Inc.* to provide current enrollment, degree and past attendance verifications online 24 hours a day, seven days a week. *Credentials, Inc.* Customer Service is available at 1-847-446-1027, ext. 104 between 7:00 a.m. and 7:00 p.m. CST/CDT Monday through Friday.

Enrollment Status for Fall and Spring Terms

Nondegree-seeking		**Degree-seeking**	
Status	Credit Hours	Status	Credit Hours
Full	12 or more	Full	9 or more
Half	6, 7, 8, 9, 10, or 11	Half	4.5**,5, 6, 7, or 8
LTHT*	less than 6	LTHT*	less than 4.5

Enrollment Status for Summer Term

Nondegree-seeking		**Degree-seeking**	
Status	Credit Hours	Status	Credit Hours
Full	12	Full	6
Half	6	Half	3
LTHT*	less than 6	LTHT*	less than 3

* LTHT = Less Than Half Time

** 4.5 hours applies only to College of Business Administration credit hours.

For students receiving university fellowships, assistantships, and tuition support, see Full-time Enrollment Requirements in the General Graduate Policies section of this catalog.

All Federal loan recipients must enroll at least half time for each term that a loan is requested (that is, 4.5+ hours in fall/spring; 3+ hours in summer, regardless of classification). The in-school grace and deferment period of the loan remains as long as the student is enrolled at least half time. Nondegree-seeking students have different requirements and should contact the Office of Student Financial Assistance for specific information.

Students on family insurance policies that require full-time status must take at least 9 hours per semester in the fall and spring terms (6 hours in the summer term) to be considered full time. Students classified as nondegree-seeking must enroll in at least 12 hours of course work in order to be considered full time.

VA Educational Benefits For degree and nondegree-seeking students, the VA benefits pay levels for credit hour enrollment are:

Full

Fall and Spring terms	9	Summer term	6

3/4

Fall and Spring terms	7 or 8	Summer term	4 or 5

1/2

Fall and Spring terms	6* (4.5 **)	Summer term	3*

* Tuition and Fee payments apply below these credit hours.
** Applies to College of Business Administration credit hours.

Withdrawal Policy and academic record change requests

Withdrawal for each term begins after "Late Registration and Add/Drop" ends. Students may withdraw from a class and receive the notation of "W" until the date noted in the "Academic Calendar" of the *Web Enrollment Guide*. A student may withdraw from courses using myUCF at https://my.ucf.edu, or by visiting the Registrar's Office (Millican Hall 161), certain college advising offices, or a Regional Campus records office. Students may withdraw by fax at 407-823-5652. Faxed requests must be received by 5:00 p.m. on the last day to withdraw and must include the student's identification number, the course(s) to be dropped, and the student's signature. Students also may send a written request to the Registrar's Office by mail (to P.O. Box 160114, Orlando, FL 32816-0114). This letter must be time-stamped or postmarked before the published withdrawal deadline and must include the student's identification number, the course(s) to be dropped, and the student's signature. Students seeking to withdraw in person must sign the request and must provide photo identification. The official date of withdrawal is the date the university receives the withdrawal request. Requests received by mail are processed using the postmark as the official date of withdrawal.

Withdrawing from classes may have financial aid, NCAA eligibility, or international Visa consequences. Students should seek appropriate advisement prior to withdrawing from a class.

A student is not automatically withdrawn from a class for not attending, nor can an instructor withdraw a student from a class. Upon request the instructor will provide the student with an assessment of the student's performance in the course prior to the last day of withdrawal.

Withdrawals are not permitted after the deadline except in extraordinary circumstances such as serious medical problems. Unsatisfactory academic performance is not an acceptable reason for withdrawal after the deadline. Graduate students seeking to petition for a late withdrawal should consult the College of Graduate Studies (MH 230). At the time of the request, the College of Graduate Studies will ascertain from the instructor whether the student was passing or failing the course. If the student was passing, a "WP" will be recorded on the student's permanent record; if failing, a "WF" will be entered. Medical and late withdrawals are generally for all courses taken in the semester.

Graduate students who seek late withdrawal because they are ill must apply for the withdrawal within one year of the end of the term from which the withdrawal is sought (submission within six months refunds tuition). Students seeking a late withdrawal because of medical conditions must follow the medical withdrawal procedure. The student's physician provides the university with the appropriate medical information, using the forms available in the College of Graduate Studies. A medical withdrawal must be for all classes in the term.

If a medical withdrawal is approved, a "WM" will be recorded for each course. Graduate students who receive a medical withdrawal may be placed on hold until the university can determine that the student is ready to return. If a medical withdrawal is not approved, the request may be approved as a late withdrawal and grades of "WP" or "WF" will be recorded. A grade of "WF" will affect the calculation of the student's grade point average.

Following the close of Late Registration and Add/Drop each term, students withdrawing from courses will incur both grade and fee liability. Graduate students with circumstances determined by the university to be exceptional and beyond their control may apply for a cancellation of enrollment and the elimination of fee liability. Exceptional circumstances include, but are not limited to sickness, death, involuntary call to military service, or administrative errors created by the University. Graduate students must submit a petition and all supporting documentation for a late Drop of courses to the College of Graduate Studies (Millican Hall 230; 407-823-2766) within six months of the end of the semester for which the late Drop is sought.

If a graduate student withdraws from a course while an alleged academically dishonest act is under consideration, and the case is not subsequently resolved in favor of the student, the university reserves the right to assign the appropriate grade for the course.

Financial Support

Graduate students who will be supported on assistantships must contact their program coordinator to see that their employment contract form is filled out and to request tuition support. Paychecks are delayed when these arrangements are not made prior to the beginning of the semester. All graduate students who are receiving fellowships should register as early as possible so that payment arrangements can be made by the UCF College of Graduate Studies.

Student Responsibility to Inform Offices

All graduate students who have financial aid, or who need financial support in order to attend UCF, should be sure to inform all appropriate offices of all changes in financial status. Remember to inform the departmental office, the Office of Student Financial Assistance, and the UCF College of Graduate Studies of all changes related to enrollment, graduate status, or financial support.

Parking

All vehicles parked on campus, including evening students' vehicles, must be registered with the Parking Services Office and display the appropriate permit or decal. Parking Services offers assistance to motorists, including battery jump-starts and unlocking car doors. For more information see the Parking Services Office's website.

Visitor Information Center

To park on campus without a decal, purchase a daily permit at the Visitor Information Center across from the Progress Energy University Welcome Center or from the pay-and-display machines on campus. Daily permits are valid only in student lots. Meters are also available in selected locations.

Financial Information

Overview

Graduate education provides personal enrichment and a deeper understanding of some aspect of the world around us, but also is an important investment in the future of a community. It is an investment on the part of the student that opens the door to new careers, wider choices of work assignments, and greater opportunities for advancement to higher paying jobs. It is also an investment on the part of the university and the community as a whole in the training of the next generation of workers, leaders, educators, innovators, and contributing citizens. Besides the time investment, a graduate student has financial expenses that include tuition and education-related fees, instructional supplies, and living expenses. UCF helps to offer the opportunities provided by graduate education at a very reasonable cost.

For a significant portion of the graduate student population at UCF, the process of learning and being trained for disciplines that require graduate-level education includes participating in the research, teaching, and community-building missions of the University. This partnership between graduate students and the University is recognized by both the University and the State of Florida by means of financial support in the form of fellowships, tuition remission, and research and teaching assistantships. Many of the assistantship appointments represent professional opportunities as well as a means of financial support.

In order to qualify for fellowships, tuition remission, or assistantships, graduate students are expected to be enrolled full-time in a degree program. Assistantship appointments require the student to beengaged in paid appointments that promote the missions of the University. The details of these requirements are described in Financial Support Requirements, as well as in the fellowships, assistantships, tuition support, and health insurance pages in the Financial Information section of this catalog.

Financial Support Requirements

Graduate students must meet all of the following requirements each term that they receive fellowships, assistantships, or tuition remission:

- Students must be accepted as a graduate student in a degree program and enrolled full-time. See Full-time Enrollment Requirements. Nondegree-seeking students and students who are only admitted to a graduate certificate program are ineligible for UCF financial support.
- Students must maintain good academic standing. See Academic Progress and Performance.
- In order to receive tuition remission, students must be either graduate assistants (position codes 9181-9184, 9186, or 9187), University Fellows, or be admitted as part of a formal, written University-approved agreement. The graduate assistant category includes the following types of appointments: Graduate Assistant (GA, Position Code 9186); Graduate Teaching Assistant (GTA, Position Code 9184); Graduate Teaching Associate (GTA, Position Code 9183); Graduate Teaching Assistant-Grader (GTA, Position Code 9187); Graduate Research Assistant (GRA, Position Code 9182); and Graduate Research Associate (GRA, Position Code 9181). Full tuition support requires a qualifying university fellowship or a 0.5 FTE appointment (20 hours per week) and

stipend level of at least $12,000 ($6,000 in fall and spring) for doctoral students or $10,000 ($5,000 in fall and spring) for master's students for the academic year. Half tuition support requires a 0.25 FTE appointment (10 hours per week) and stipend level of at least $6,000 ($3,000 in fall and spring) for doctoral students or $5,000 ($2,500 in fall and spring) for master's students for the academic year.

- Tuition remission will be provided only for courses that are part of the student's program of study and necessary for progress toward the student's graduate degree.
- Graduate fellowships have additional requirements. See Graduate Fellowships.

Graduate Fellowships

The UCF College of Graduate Studies awards more than $2 million in university fellowships to provide financial support for the graduate education of over 300 graduate students each year. These fellowships are funded by university appropriations, endowments, and other outside sources.

Fellowships are awarded on the basis of academic merit to the most highly qualified applicants. Some fellowships are available only to applicants who are underrepresented in higher education in the State of Florida. For eligibility, students must be accepted as a graduate student in a degree program and enrolled full-time. See Full-time Enrollment Requirements. Students who are interested in being considered for a fellowship are strongly encouraged to apply for admission by the priority date and to communicate their interest in receiving a fellowship to their intended graduate program. GRE scores are required to be considered for most fellowships even if not required for admission to a specific program. Most fellowships require Graduate Program Directors to nominate students to the College of Graduate Studies through the college and program offices. All admitted graduate students are automatically considered in this nomination process. Other fellowships, however, require students to fill out a fellowship application. For more details about graduate fellowships, visit Fellowships.

International students receiving fellowships are subject to up to 14 percent withholding on their fellowship payments. International students must obtain a Social Security Number (SSN) prior to receiving payment of a fellowship. More information on this issue can be obtained from the Global UCF (INTLadmissions@ucf.edu).

General Fellowship Requirements

- Students usually receive only one UCF fellowship per term, and students are eligible to receive a given fellowship only once.
- Fellowships are only awarded to highly qualified individuals who are admitted, degree-seeking graduate students (regular or conditional admission) by the time the fellowship is awarded. Students on

conditional admission status may be offered a fellowship, but must submit documentation required for regular admission status prior to fellowship disbursement. Students on provisional and restricted admission status, nondegree-seeking (postbaccalaureate) students, and graduate certificate students are not eligible to receive fellowships.

- All fellowships require full-time graduate enrollment. See Full-time Enrollment Requirements.
- Fellowship students must make acceptable academic progress during each term of the award or the fellowship will be cancelled. See Academic Progress for Fellowship Recipients below.
- Fellowship students must participate in events scheduled for the university fellowship community and in selected service acitivities for the UCF community. Additional information about this requirement is found at For UCF Fellows.
- Some fellowships have additional requirements, which are described in the fellowship details found at Fellowships.

Students Working Full Time

Students who are employed full-time in on-campus or off-campus jobs may not receive university fellowships, as UCF fellowship recipients are expected to be primarily focused on graduate study and related activities on campus (e.g., graduate assistantships, research activities, participation in professional organizations).

In addition, students receiving tuition assistance from another source (UCF Employee Tuition Voucher, State Employee Tuition Voucher, etc.) may not also receive a UCF graduate tuition waiver. Graduate assistants and fellows are not eligible to receive UCF Employee Tuition or State Employee Tuition Vouchers.

Academic Progress for Fellowship Recipients

Fellowship recipients are required to be in good standing and to make satisfactory academic progress to continue to receive a fellowship award. To be considered in good standing, fellowship recipients are required to maintain the standards listed below.

- Fully accepted into a graduate degree program at UCF.
- Enrolled as full-time graduate students. See Full-time Enrollment Requirements.
- Maintain a graduate status GPA of 3.0 each term of the award.
- Receive satisfactory grades in all classes, and no grade of incomplete ("I"). (Unsatisfactory grades are C, C+, C- , D, F, and U.)

Failure to meet any one of these standards will result in the cancellation of the fellowship. The College of Graduate Studies may grant rare exceptions to this policy after review of evidence of mitigating circumstances presented by the student and the graduate program.

Graduate Fellowships

The following list identifies the fellowships offered by the university and the funding programs in which the university participates. Those for which the College of Graduate Studies provides a graduate tuition waiver are marked (TW). For the most current information regarding fellowships, students are encouraged to consult Fellowships, as well as Funding.

- UCF Trustees Doctoral Fellowship (TW)
- UCF Presidential Doctoral Fellowship (TW)
- UCF Multidisciplinary Doctoral Fellowship (TW)
- UCF Graduate Dean's Dissertation Completion Fellowship (TW)
- UCF MFA Provost's Graduate Fellowship (TW)

- UCF Graduate Research Excellence Fellowship (TW)
- UCF Graduate Dean's Fellowship
- McKnight Doctoral Fellowship (TW)
- UCF Graduate RAMP Fellowship (TW)
- UCF Graduate McNair Fellowship (TW)
- Summer Mentoring Fellowship (TW)
- Delores A. Auzenne Fellowship
- Florida A&M University Feeder Program (TW)
- UCF Graduate Presentation Fellowship

Fellowship Disbursement

Most graduate fellowships are disbursed through the Office of Student Financial Assistance, based on instructions provided by the UCF College of Graduate Studies. Student Financial Assistance begins disbursing fellowship funds and other aid after the registration and Drop/Add period has ended (usually the second week into the term). For the portion of tuition charges covered by the fellowship, the tuition payment deadline will be deferred until fellowship disbursement. If students are not enrolled in full-time hours by the end of the Drop/Add period, their fellowship will be cancelled. Students are responsible for paying the balance of tuition and fees by the Payment Deadline published in the UCF Academic Calendar. Fellowship payment will first be applied to the student's account balance. Remaining funds will be disbursed to the student either as a check mailed to the current mailing address of record or as a direct deposit into the student's account, if the student has provided the bank information in myUCF.

Students can check to see if fellowship payment has been applied to their account through myUCF. In myUCF, select "Student Accounts" to see awards that have been set up to pay against your account.

Graduate Assistantships

Graduate students often receive assistantships in their departments or other university offices while pursuing graduate studies. Graduate assistants may teach, conduct research, or perform other tasks that contribute to the student's professional development.

Graduate students may become Graduate Teaching Associates, Assistants, or Graders (GTAs), Graduate Research Associates or Assistants (GRAs), or Graduate Assistants (GAs). For eligibility, students must be accepted as a graduate student in a degree program and be enrolled full-time. Graduate students enrolled fully online program that exempt them from paying campus-based fees are not eligible for graduate assistantships. See Full-time Enrollment Requirements.

Both half- and full-stipend assistantships are available. Half-stipend assistantships require students to perform assistantship assignments for a minimum of 10 hours per week during the period of the assignment. Full-stipend assistantships require students to perform assistantship assignments for a minimum of 20 hours per week during the period of the assignment. University policy requires that graduate assistants (position codes 9181-9184, 9186, and 9187) with half-stipend assistantships receive a minimum stipend of $6,000 ($3,000 in fall and spring) for doctoral students or $5,000 ($2,500 in fall and spring) for masters students; graduate assistants with full-stipend assistantships receive a minimum stipend of $12,000 ($6,000 in fall and spring) for doctoral students or $10,000 ($5,000 in fall and spring) for masters students per academic year. In rare circumstances, students may be appointed to assistantships with total hourly commitments that extend beyond hours per week. During the fall and spring terms, approval for appointments above 20 hours per week must be requested using the Supplemental Assignment Form; during the Summer term, prior approval is not required. Departments vary widely in their normal stipend rates.

Specific eligibility and application guidelines for graduate assistants are established by the colleges and departments. To apply for an assistantship, students should contact their Graduate Program Director in the department of study. (For your Graduate Program Director's e-mail address and telephone number, see the "Contact Info" in the Graduate Programs section of this graduate catalog.)

Part-time students (those registered for less than 9 hours in fall and spring terms, or less than 6 hours in summer term) and nondegree students are not eligible to receive assistantships.

Background Investigations

UCF requires a criminal history background investigation for all new hire graduate assistantship students (job codes 9181, 9182, 9183, 9184, 9186, 9187), as well as for those students who are being rehired as graduate assistants after being off the university payroll for one year or more. UCF requires authorization from the graduate assistantship student to conduct this background check, using the Fair Credit Reporting Act Disclosure and Authorization to Release Information Form at http://hr.ucf.edu.

Assistantship Payment

Graduate students who have assistantships receive biweekly payments following the schedule set by Human Resources. Assistantship payments do not show as credit on the student's term bill; thus, they do not defer tuition and fee charges. Students are responsible for paying the balance on their term bill by the payment deadline published in the Academic Calendar.

Graduate students on assistantships should be aware of the Internal Revenue Service guidelines for exemption from FICA withholding taxes. For more information, please see "Federal Tax Guidelines" on the UCF Human Resources website.

Graduate Research Associates and Assistants

Graduate research associates and assistants (GRAs, job codes 9181 and 9182) may assist faculty with research activities, participate in research efforts in university institutes and centers or in off-campus projects affiliated with the university, or perform other research-related duties. They may also be assigned to nonacademic university offices such as Academic Affairs, University Analysis and Planning Support, and Operational Excellence and Assessment Support.

GRAs are typically supported by grants and contracts, but may also be supported by departmental funds. GRAs will have the cost of resident tuition paid by university funds (i.e., through grants, contracts, college or division funds, foundation funds or through a formal, written university-approved agreement).

Graduate Assistants

Graduate assistants (GAs, job code 9186) may assist in general office tasks and services not involved in teaching or research assignments for colleges, departments, or nonacademic university offices. GAs will have the cost of resident tuition paid by university funds (i.e., through grants, contracts, college or division funds, foundation funds or through a formal, written university-approved agreement).

Graduate Teaching Associates, Assistants and Graders

Graduate teaching associates, assistants, and graders (GTAs) support the teaching mission of the university and can be hired under three job codes: Graduate Teaching Associate (9183, Instructor of Record); Graduate Teaching Assistant (9184); and Graduate Teaching Assistant - Grader (9187). GTAs may be assigned as instructors of record for undergraduate courses, as assistants to the faculty in their teaching responsibilities or in other roles directly related to credit-earning formal course instruction, or as tutors for students on specific course-related material or general skills. GTAs assisting members of the faculty may have responsibilities that include assisting in laboratory courses, grading, preparation of course materials, or performing clerical tasks associated with course instruction.

GTAs will receive graduate tuition waivers that cover the cost of resident tuition or will have the cost of resident tuition paid by the employing unit.

Graduate Teaching Requirements

- Students must have completed at least 18 hours of graduate courses in the discipline prior to being assigned as an instructor of record or teaching independently at the university. Graduate Teaching Associates may not teach graduate courses.
- New graduate teaching associates, assistants, and graders are required to satisfy the UCF GTA Training requirements before beginning their assistantship assignment. Graduate teaching associates must complete the online GTA Grader Training and GTA Assistant Training and attend an all day, face-to-face workshop presented by the Faculty Center for Teaching and Learning. Graduate teaching assistants must complete the online GTA Grader Training and GTA Assistant Training. Graduate teaching

graders must complete the online GTA Grader Training.

- Students with access to student records must maintain the confidentiality of all student records and information. Failure to do so will result in immediate dismissal.
- All graduate students involved in classroom instruction who received their undergraduate degrees from a foreign institution must prove their facility with spoken English. See "English-speaking Ability for Graduate Teaching Assistants" below for more information.

For more information regarding GTAs at UCF and registration for GTA Training and SPEAK testing, see Graduate Teaching.

English-speaking Ability for Graduate Teaching

The English-speaking skills of graduate students with English as a second language who plan to serve as graduate teaching associates or assistants (job codes 9183 or 9184) will be evaluated as part of the GTA Training that is offered each semester. This requirement applies to all students from countries where English is not the native language; however, such students will be exempt if they have completed a previous degree from a regionally accredited U.S. college or university, from a country where English is the only official language, or from a university at which English is the only official language of instruction, or they have received a score of 26 or higher on the Speak portion of the ibt TOEFL. Only exempted students and those who have attended the UCF GTA Training and satisfactorily passed the evaluation of their English-speaking skills may be assigned as GTAs.

English-speaking ability will be evaluated at UCF using the SPEAK test provided by the Educational Testing Service at the beginning of the Fall and Spring semesters. Should you need to take a SPEAK exam in the summer, please contact the English Language Institute directly.

The university provides you with free English-speaking training if your scores are between 45 and 55 on the initial SPEAK test.

Initial SPEAK Score	English-speaking Training
55 or more	No training needed; you may be a GTA Associate or Assistant provided you meet other SACS-related qualifications.
50	One semester of free training (Oral Communication for Internationals) will be provided by the university with an additional SPEAK exam required at the end of the semesters training. Failure to attend 15 or more sessions or to complete the required SPEAK exam in that semester will result in you being charged for the training and final SPEAK exam. You may be employed as a GTA Assistant to help with laboratory or other duties under the supervision of a faculty member, provided you meet other SACS-related qualifications.
45	One semester of free training (Oral Communication for Internationals) will be provided by the university with an additional SPEAK exam required at the end of the semesters training. Failure to attend 15 or more sessions or to complete the required SPEAK exam in that semester will result in you being charged for the training and final SPEAK exam.
Less than 45	Please consult the English Language Institute for an intensive English language program that will meet your needs. These programs charge a fee, depending upon your needs, that must be paid by you.

If students achieve a satisfactory post-evaluation at the end of the semester, they may be assigned as GTAs. Otherwise, students must apply for further training at their or their departments expense.

Assessment of Graduate Teaching Associates, Assistants, and Graders

All GTAs will be evaluated on their teaching each semester using the GTA Performance Assessment Form provided by the College of Graduate Studies. Completion of the form constitutes a summary assessment based on prior classroom visits, informal observations, input from students, discussions with the GTA, and other evidence of performance. The faculty member who is supervising the GTA must complete the assessment and meet with the assistant to discuss the assessment. The form is sent to the College of Graduate Studies by the end of the semester.

Assistantship agreements will not be approved for GTAs who are missing Performance Assessment Forms.

Use of the assessment is at the discretion of the department in reassigning or continuing the student in their GTA position.

Employment of International Students

For information regarding the employment of international students, see International Students in the Admissions section of this catalog.

Parental Leave for Graduate Assistants

The Parental Leave program is designed to assist graduate assistants on existing assistantship agreements during pregnancy or immediately after the birth or adoption of their infant child. The mother may choose to use up to six weeks of leave for pregnancy and/or maternity needs. The spouse or partner may choose to use up to six weeks of leave to assist in the care of the newborn child and the childs mother during the postpartum period. Graduate assistants who have assumed parenthood through the adoption of an infant may also use this leave. This includes graduate assistants in a domestic partnership. For this leave policy, a domestic partner is defined as a same sex individual who shares a committed, mutually-dependent relationship.

Qualifying for Parental Leave

Only full-time enrolled graduate students holding active assistantship appointments (job codes 9181, 9182, 9183, 9184, 9186, or 9187) are eligible for the leave. These include Graduate Teaching Assistants (GTAs), Graduate Research Assistants (GRAs), and Graduate Assistants (GAs). For assistantship descriptions, see https://funding.graduate.ucf.edu/assistantships/.

Applicants for the leave must submit an Application for Parental Leave to the College of Graduate Studies (send to gradassistantship@ucf.edu or Fax 407-823-6442) at least four weeks prior to the anticipated start date of the leave. Provisions will be made for those who must start leave earlier than anticipated due to medical circumstances. The application consists of two parts. Part 1 is the Request form giving the anticipated dates of leave and showing approval of the leave by the funding sponsor of the assistantship (e.g., department chair, research adviser, unit head). Part 2 is the Anticipated Parent Information from an attending physician about the pregnancy and/or birth or from an adoption agency verifying the date of adoption and arrival of the infant.

All students on parental leave must submit an Intent to Return to Assistantship from Parental Leave form to the College of Graduate Studies (send to gradassistantship@ucf.edu or Fax 407-823-6442) at least two weeks before their anticipated return date. Those who experienced pregnancy and delivery must complete the Medical Release section on the form affirming that they have sufficiently recovered to resume their assistantship responsibilities. A student unable to return after the six-week leave period must petition for a Medical Withdrawal or a Special Leave of Absence (contact gradservices@ucf.edu in the College of Graduate Studies).

Benefits to Graduate Assistants

During the approved parental leave, the student will retain student status and all privileges of an enrolled student.

Approved parental leave is paid leave for up to six weeks but may be a shorter period, depending on the students graduate assistantship agreement(s). The students assistantship status will be maintained during the leave, including paid tuition remission and health insurance (if the student accepted this coverage offered by the College of Graduate Studies).

Prior to the leave, the student is expected to confer with his/her course instructors to develop plans as necessary to make up any academic work missed during the leave. Any leave for longer than the six-week period must be petitioned as a Medical Withdrawal or a Special Leave of Absence.

Assistantship Payment and Coverage

The College of Graduate Studies will pay the assistantship stipend equal to the rate of the students existing assistantship agreement(s) during the approved leave period. Arrangements for this payment will be coordinated with the students assistantship sponsor (i.e., hiring department).

Since the assistantship sponsor does not pay the stipend during the approved leave, the sponsor may hire a replacement at its own expense to fill the duties of the student on leave. This hire may be done using a short-term OPSGRD or a Supplemental Assignment for an existing graduate assistant. The Supplemental Assignment will be approved by the College of Graduate Studies as long as the replacement is in good academic standing with at least a Graduate Status GPA of 3.0, has a history of academic progress in the degree program, and has completed required training for their assignments (e.g., GTA training and SPEAK Test; for grants, responsible conduct of research training).

The parental leave period of up to six weeks is only in effect for the duration of an existing assistantship agreement and will not extend beyond the agreement end date. However, parental leave could be divided between the end of one semester and the beginning of the subsequent semester if there are assistantship agreements in both semesters.

Graduate Tuition Support

Graduate assistants or graduate students who receive certain university-wide fellowships will receive tuition support (formally referred to as "tuition remission") as part of their financial package. Tuition remission is in the form of either tuition waivers or tuition payments from university funds.

Tuition support pays the resident tuition ("in-state" tuition); it does not include payment of local fees (health fee, athletic fee, etc.). However, certain programs will pay additional fees for their supported students. For nonresident students, see below. Tuition support is generally described in the student's financial offer letter. Students should contact their program or department if they have questions about the tuition support that will be provided.

For students receiving tuition support based on their graduate assistantship(s), the level of tuition support is dependent on the level of assistantship support. To receive half tuition support, students are required to have a single assistantship assignment for a minimum of 10 hours per week during the period of the assignment. To receive full tuition support, students are required to have a single assistantship assignment for a minimum of 20 hours per week, or two assistantship assignments, each for a minimum of 10 hours per week during the period of the assignment.

Certain fellowships also provide tuition support. Students should review the letter offering the fellowship and the terms of the award to see if tuition support is included. Specific questions concerning the amount of tuition included with a given fellowship may be directed to the UCF College of Graduate Studies at gradfellowship@ucf.edu.

Tuition support for nonresident students:

For nonresident students, all university fellows who receive tuition support and qualifying graduate assistants will not be charged the nonresident fee ("out-of-state" tuition) or the nonresident financial aid fee. Peace Corps Fellows will not be charged the nonresident fee or nonresident financial aid fee for the duration of their graduate studies at UCF. Qualifying assistantships include a single appointment of at least 0.5 FTE (20 hours per week) or two appointments of at least 0.25 FTE (10 hours per week). It is important to note that this will only be in effect for the terms of the fellowship or the qualifying assistantship appointment(s).

Note: Students receiving tuition assistance from another source (UCF Employee Tuition Voucher, State Employee Tuition Voucher, etc.) may not also receive a UCF graduate tuition waiver.

Student Obligations

Student drops or withdraws from a course but remains full-time. If a student drops or withdraws from a course for which tuition remission has been received but remains full-time enrolled, the tuition remission will be removed and the student must pay the tuition for that course. Holds will prevent the student from registering for classes, receiving transcripts, or receiving grade reports until the payment is received. However, if the student enrolls in a replacement course that is acceptable in the Program of Study, the tuition remission will cover the replacement course.

Student drops or withdraws from a course and becomes part-time. If a student drops or withdraws from a course for which tuition remission has been received and becomes part-time as a result, the tuition remission will be removed and the student must pay for tuition. Holds on student records will prevent students from registering for classes, receiving transcripts, or receiving grade reports until the payment is received. (In extreme cases, a student may request an exception to this policy.)

Student is dismissed or resigns from assistantship. Students with tuition remission who are dismissed from the university or resign from their graduate assistantship (GA, GTA, or GRA) at any point during the term will have their tuition remission removed and must pay for tuition.

Requesting Tuition Remission

Upon the recommendation of program and college offices, the UCF College of Graduate Studies assigns tuition waivers and facilitates tuition payments to qualifying graduate assistants. Students should discuss their tuition support needs with their Graduate Program Director.

Students with Positions in Nonacademic Units

Students may also be hired as a graduate assistant (GA or GRA) in a nonacademic office. Tuition remission for these appointments is in the form of tuition payments. Students should discuss their tuition support needs with their nonacademic office supervisor.

Contact the UCF College of Graduate Studies if you are unsure if the office is considered nonacademic.

Tuition Remission Posting

All tuition support will be posted to your student account through the Office of Student Accounts, based on instructions provided by the UCF College of Graduate Studies for graduate tuition waivers, or by the program, college or office for tuition payments. Upon enrollment in full-time hours, students receiving tuition support will have their tuition deferred for the amount of the award. Students are responsible for paying the remaining balance of tuition and fees by the Payment Deadline published in the UCF Academic Calendar.

Paid Health Insurance Coverage

The College of Graduate Studies provides health insurance coverage as partof the complete financial packagesoffered to all qualifying university fellows and graduate assistants with appointments totaling 20 hours per week.

Qualifying Fellowships and Assistantships

- Students with university fellowships that are accompanied by tuition waivers are eligible for paid health insurance coverage.
- Graduate assistants are eligible for paid health insurance coverage if they have a single appointment of at least 0.5 FTE (20 hours per week) or two appointments of at least 0.25 FTE (10 hours per week). Graduate assistantships must be accompanied by resident tuition remission in the form of either GTA tuition waivers or tuition payments paid by university funds.

Full annual coverage will be provided in two separate time periods. Students with qualifying assistantships and fellowships in the fall term will receive fall coverage, running from August 15 through December 31. Students with qualifying assistantships and fellowships in the spring term will receive coverage for the remainder of the policy year, running from January 1 through August 14. Students with a qualifying assistantship or fellowship only in summer term will receive summer coverage, running from May 1 through August 14.

All students qualifying for paid health insurance coverage will be required toaccept or decline the health insurance coverage in their myUCF Student Center by submitting the Graduate Health Insurance electronic form. See Health Insurance for more information about this health insurance coverage.

Communications from the College of Graduate Studies and the health insurance company will be sent to the student's Knights e-mail address and the local mailing address in the university records. Students who anticipate receiving health insurance coverage due to their assistantship or fellowship are advised to keep their contact information current at myUCF (my.ucf.edu).

Student Financial Assistance

OFFICE OF STUDENT FINANCIAL ASSISTANCE

Director: Alicia Keaton
Millican Hall, Room 107
Switchboard: (407) 823-2827
Fax: (407) 823-5241
Email: finaid@ucf.edu
Website: finaid.ucf.edu

Office Hours:

Monday:	9:00 a.m. - 5:30 p.m.
Tuesday/Wednesday/Friday:	9:00 a.m. - 5:00 p.m.
Thursday:	9:00 a.m. - 5:30 p.m.

(Hours subject to change during holidays and semester breaks.)

The Office of Student Financial Assistance, a unit with Student Development and Enrollment Services is dedicated to supporting UCF's mission and goals through the efficient delivery of student aid. The office provides UCF students with a comprehensive offering of financial assistance options to support student success and the attainment of a university degree. Financial aid counseling is available on a walk-in basis. To protect privacy of student records, we offer limited counseling services through phone and email.

Student Eligibility

To receive aid from most federal and state financial aid programs, students must meet certain requirements. All students are encouraged to complete the Free Application for Federal Student Aid (FAFSA) annually, before December 1, to determine eligibility for aid. The FAFSA results are required for many programs. The federal processor, using a standardized formula, calculates financial need. Those results are then forwarded to the schools that were identified on the application. UCF must be listed on the FAFSA in order to receive the data. UCF's Federal School Code is 003954. Regulations are subject to change at any time.

Application Priority Date

All students must apply and/or reapply annually for financial aid.

To be considered for the full range of financial aid funding available, students should complete the Free Application for Federal Student Aid (FAFSA)/Renewal FAFSA by mid-November. The processed results of the FAFSA must be received by **December 1** to meet the university's application priority date.

- If the priority date is missed, students should apply as soon as possible after that date.
- Students should not wait to be admitted to UCF before applying for financial aid; however, they cannot be offered a financial aid package until they have been admitted to the university.
- Students enrolling in the fall semester should submit all requested documents by the May 30, priority deadline for timely review and processing of their financial aid file. However, all students should have a completed financial aid file at least 60 days prior to the beginning of any given semester. Students who apply late for aid should be prepared to cover their own living expenses, as well as other out-of-pocket expenses, well into the term.

Application Procedures

- The FAFSA can be filed electronically at www.fafsa.gov.
- Using the IRS Data Retrieval Tool found within the FAFSA is the most accurate and secure method of providing the required tax information. Applicants who use the unchanged data generated by the IRS Data Retrieval Tool will not be required to provide federal tax return transcripts from the IRS to the financial aid office. Students who are selected for verification who did not use the IRS Data Retrieval Tool, or changed data after using the tool, may be required to submit IRS tax return transcripts to verify tax information. Per federal regulation, copies of tax returns (Form 1040, 1040EZ, etc.) are no longer acceptable. The only exceptions to this rule include those who file tax returns in Puerto Rico or foreign countries.
- Information provided on the Student Aid Report (SAR) should be reviewed thoroughly.
- Review all correspondence, follow instructions on the SAR, and follow through within 5-10 business days. Delays can be costly as well as frustrating.
- Federal regulations require that some students be selected for verification. If selected, students will be asked to provide documents supporting the information submitted on the FAFSA. Subsequent requests for data may be necessary after initial submissions are reviewed. Prompt

response to requests will expedite completion of this process.

- Students selected for verification for the 2017-2018 aid year are advised to submit all requested documents by the May 30, verification priority deadline for timely processing. Students should have a completed financial aid file no later than 60 days prior to the beginning of a semester.
- Late or incomplete submission of documents can result in delayed disbursement or possible loss of eligibility for aid.
- Offered federal funds and other need based financial aid are considered estimates until verification is complete and all necessary corrections have been made.

Specific Eligibility Requirements and Conditions for Receiving Financial Aid

- Students must be accepted and classified as degree seeking at UCF in an eligible program of study.
- For purposes of financial aid, enrollment is based on classes that count toward degree completion. To ensure enrollment in sufficient hours for the various financial aid programs, please refer to the Program Eligibility Charts on the Office of Student Financial Assistance website.
- Students must maintain UCF's Standards for Satisfactory Academic Progress.
- Students are required to inform the Office of Student Financial Assistance of any additional sources of aid they expect to receive beyond those listed on the myUCF portal. Any subsequent awards or income may necessitate a revision of the financial aid package. This includes, but is not limited to, any private scholarships, third party tuition payments, departmental payments and/or waivers.
- Students may not receive aid in excess of their Cost of Attendance.
- Students must not be in default on any federal educational loan or owe repayment on a federal grant at this or any other institution.
- Students must provide all information requested for the completion of their file. If selected, verification must be completed within specified deadlines and prior to the receipt of all federal and most state and institutional funds.
- Students must notify the Office of Student Financial Assistance of any changes in their housing status, household size, or family members in college from that listed on their FAFSA.
- Students must reapply annually for financial aid.
- Students must accept, reduce or decline offered loan(s) on the myUCF View Financial Aid screen. First time borrowers at UCF must complete an online Entrance Loan Counseling session and Master Promissory Note (MPN) for Federal Direct Stafford Loans.
- Students must be U.S. citizens or eligible non-citizens, (e.g. resident aliens). Eligible non-citizens include a permanent U.S. resident with a Permanent Resident Card (I-551); a conditional permanent resident with a Conditional Green Card (I-5551C); as well as some I-94 classifications.
- For need-based programs, students must show a financial need as determined by the FAFSA.
- A male applicant must be registered with Selective Service, if applicable.

Helpful Hints

- Apply early to be considered for the full range of financial aid available each year by completing the Free Application for Federal Student Aid (FAFSA)/Renewal FAFSA. The processed results of the FAFSA must be received by UCF from the federal processor by **December 1** to meet the university's application priority date.
- Use the IRS Data Retrieval Tool located within the FAFSA application. Applicants who use the unchanged data generated by the IRS Data Retrieval Tool will not be required to provide federal tax return transcripts from the IRS. Students who are selected for Verification who did not use the IRS Data Retrieval Tool, or changed data after using the tool, will be required to submit IRS tax return transcripts to verify tax information. Per federal regulation, copies of tax returns (Form 1040, 1040EZ, etc.) are no longer acceptable. The only exceptions to this rule include those who file tax returns in Puerto Rico or foreign countries.

- Students selected for verification for the 2017-2018 aid year are advised to submit all requested documents by the May30, verification priority deadline for timely processing. Students should have a completed financial aid file no later than 60 days prior to the beginning of the semester.
- Start a folder to save financial aid information and photocopies of all documents filed and received. Include student's name and UCF ID on all documents submitted. (Do not submit originals; documents will be shredded after scanning.).
- Students should activate their Knights Email account, and check it regularly to avoid missing important and critical information from the Office of Student Financial Assistance and the university.
- Complete all items on your myUCF, Student Center, "To Do List." Respond promptly to all information requests.
- Students may visit the office during normal business hours to meet with a counselor.
- Comprehensive information can be found on the Office of Student Financial Assistance website: finaid.ucf.edu.

School Costs

Estimated student budgets have been developed as a guide to help students anticipate their costs at UCF.

Estimated Cost of Attendance for 2017-2018
Graduate Students
fall/spring based on 9 hours per term

	Florida Residents		Non-Florida Residents	
Living Arrangement	**On/Off Campus**	**Parent/ Relative**	**On/Off Campus**	**Parent/ Relative**
Tuition/ Fees	$6,658	$6,658	$21,498	$21,498
Books	1,152	1,152	1,152	1,152
Room and Board	9,764	5,450	9,764	5,450
Transportation	1,866	1,866	1,866	1,866
Personal	3,104	3,104	3,104	3,104
Total Costs	$22,544	$18,230	$37,384	$33,070

Estimate Cost of Attendance for 2017-2018
UCF Online - Graduate Students
fall/spring based on 9 hours per term

	Florida Residents		Non-Florida Residents	
Living Arrangement	**On/Off Campus**	**Parent/ Relative**	**On/Off Campus**	**Parent/ Relative**
Tuition/Fees	$5,902	$5,902	$20,740	$20,740
Books	1,152	1,152	1,152	1,152
Room and Board	9,764	5,450	9,764	5,450
Transportation	1,866	1,866	1,866	1,866
Personal	3,104	3,104	3,104	3,104
Total Costs	$21,788	$14,474	$36,626	$32,312

Financial Aid Programs Available at UCF

The Program Eligibility Charts found on the Office of Student Financial Assistance website under "Receiving Aid" list the various programs and their specific enrollment requirements. Detailed information for each program can also be found on the website under its particular title.

Scholarships and Fellowships are awarded based on various criteria, such as financial need, campus/community activities, leadership positions, academic success, and work experience. Scholarships are designed to reward, encourage, and assist students in pursuing academic excellence and leadership roles.

Federal Work Study is a need-based program that provides part-time employment to student with financial need, allowing them to earn money to help with educational expenses. The program encourages community service work and/or work related to the student's course of study. Individual departments hire students while the Office of Student Financial Assistance determines the students eligibility, award amount, and pay rate.

Loans are borrowed funds that must be repaid. Graduate students must be enrolled at least half-time in UCF classes that count toward degree completion to receive federal loans. Master's, Specialist and Doctoral students must have a minimum of 4.5 hours per term for fall or spring, and/or 3 hours in the summer. Master's thesis and Doctoral dissertation students must have a minimum of 3 hours in all terms. Graduate and professional students will be offered Federal Direct Unsubsidized Loans up to their maximum loan eligibility.

Award Notification

Award notifications are mailed to first time UCF students after March 1, while email award notifications are sent to continuing students. Initial awards may be amended due to factors such as contingent admission status, less than half-time enrollment, lack of academic progress, changes required due to verification, incomplete files, over awards, receipt of additional resources, etc.

Financial aid awards will be based upon the student's financial need. The amounts listed on the award notifications are estimates based on full-time enrollment. For purposes of financial aid, enrollment is based solely on classes that count toward degree completion. If a class is not required to earn a degree, then the hours of that class are not used to calculate a student's eligibility.

Admission to UCF must be finalized with no contingencies. Students must be classified as degree seeking.

Verification, if required must be completed. Students must meet the Standards for Satisfactory Academic Progress. If all eligibility requirements are met, financial aid funds may be disbursed.

It is the student's responsibility to be aware of minimum eligibility requirements for each program, which can be found on the Program Eligibility Charts on the Office of Student Financial Assistance website. When requirements are no longer met, awards will be adjusted as necessary. Some awards may be cancelled. All changes can be viewed on the myUCF portal, Student Center, "View Financial Aid." All awards are subject to change.

Deferrals of Tuition and Fees

Deferments allow for the delay that occurs between the date that tuition and fees are due and the date on which financial aid disbursements are made, which is generally two weeks after the term begins. The fee invoice reflects the deferred due date for tuition and fees. Students given a deferment are advised that their tuition and fees charges must be paid by the due date noted on the fee invoice, which is the deferment date. The following programs are not included in the automatic deferral program: work study programs, third party deferrals and other waivers, and direct-pay scholarships.

The deferment process occurs automatically if the student is meeting all general eligibility requirements and has enrolled in sufficient hours for the financial aid program(s). Please refer to the Program Eligibility Charts on the Office of Student Financial Assistance website for more information. Students should use myUCF to obtain up-to-date information.

In order for loans to defer tuition and fees, students must accept the offered loan on myUCF View Financial Aid screen. In order, to have access to accept loans, all required items on the To Do List must be submitted. Students must drop classes prior to the end of Drop/Swap and Add to prevent fee liability for those classes.

Confirmation of Academic Engagement and Disbursements

Timing of disbursements is contingent upon students meeting all conditions for receiving aid. Disbursement of financial aid begins the second week of the semester and continues each week thereafter. During the first week of classes, students are required to confirm academic engagement in each of their courses. This is done through either the student completing an academic activity that has been established by the faculty member or by faculty physically taking attendance. Student may complete the academic activities after the first week of classes but they may receive a later disbursement of aid for those courses. At the end of the Drop/Swap and Add period, awards are adjusted based on the students enrollment and confirmation of academic engagement in each course. The week following, the disbursement process is initiated by moving students' awards to their student account. Once funds are disbursed to the Office of Student Account Services, the disbursement record is posted on myUCF portal under "View My Account" on the Student Center. Charges appearing on the students account will be deducted at that time. Any remaining financial aid will be processed as a refund. If charges remain on the account after disbursements, or if subsequent charges are made to the students account, it is the students responsibility to ensure they are paid. Students signed up for direct deposit should allow up to four business days for funds to show in their bank account. For refund checks that are being mailed, students should allow up to 7 business days to receive their check at their current mailing address on myUCF.

Students should be aware of the disbursement process so that they are prepared to use their personal savings for anticipated expenses such as books and supplies at the beginning of the term. The Short Term Advance (STA) for Books or the Textbook Purchase Program is available for students to help with these expenses. The STA application is available for download prior to each term, so that funds may be available as early as two weeks before the first day of classes. For additional information regarding these two programs, visit: finaid.ucf.edu/receiving/funds-for-books/.

Satisfactory Academic Progress (SAP)

Federal regulations require the university to establish Standards of Satisfactory Academic Progress as a general eligibility requirement for financial aid. A student must maintain Satisfactory Academic Progress in a course of study regardless of whether the student previously received financial aid or transferred in from another institution.

To meet the standards adopted by the University of Central Florida, a student must:

- Maintain a minimum cumulative GPA of a 3.0 at the graduate level.
- Complete a minimum of 70 percent of all credit hours attempted including accepted transfer hours.
- Graduate within the number of hours allowed by the Satisfactory Academic Progress policy. Students are allowed a specific number of attempted hours, based on their classification. This includes transfer hours accepted toward the degree plus all UCF hours.

  (see chart below)

Classification	Time Limit Allowed For Completing Degree
Graduate Certificate	27 Attempted Hours (includes all hours taken while classifies as a graduate certificate student)
Master's	70 Attempted Hours (includes all hours taken while classified as a graduate student)
Specialist	100 Attempted Hours (includes all hours taken while classified as a graduate student)
Doctoral	120 Attempted Hours (includes all hours taken while classified as a graduate student)

- Compliance with these requirements are checked at the end of each term
- Students who do not meet the above standards will be placed on Financial Aid Warning status for the next semester. At the end of that semester, students must either meet the standards or aid will be placed on Financial Aid Cancellation status meaning all federal aid will be canceled for future terms until student either meets the standards or the student has an appeal approved. Approved appeals will result in the student being placed on Financial Aid Probation status with an academic plan on file demonstrating the requirements for the student to get back on track towards graduation.
- Repeated course(s), including the original attempt, will be counted toward the completion ration and maximum time frame requirements.
- Once a student has attempted the maximum hour for a classification level, the student will be cancelled including those working towards a second masters degree.

Re-establishing Eligibility after Cancellation

Any student with extenuating circumstances, (i.e., death of a relative, an illness or injury of the student, etc.), who is placed on cancellation status may appeal to the Financial Aid Review Committee for reinstatement based on his/her special case.

If the student was canceled for the failure to complete 70 percent of the attempted hours and since cancellation, he/she has brought up the percentage to a minimum of 70 percent, the student will be reinstated during the end of the semester review process. If a student was canceled for not meeting the GPA requirement, they will be placed back on a reinstated status once their GPA has been brought up to the required level during the end of semester review process.

To appeal, the student must:

- Complete the Satisfactory Academic Progress Appeal Form; (available on the Office of Student Financial Assistance website at: finaid.ucf.edu, under Forms.
- Include: a detailed statement that explains the extenuating circumstances that prevented: or resulted in the student not meeting the SAP standards.
- Attach documentation supporting specific circumstance(s) to the appeal form.
- Meet with the Academic Advisor and have the advisor complete an Academic Plan. The Academic Plan should include courses that are required for degree completion and that will assist the student in moving successfully to meeting the SAP standards.
- Submit the appeal, supporting documentation, and academic plan to the Office of Student Financial Assistance.

After a thorough evaluation of the detailed statement, academic plan and all supporting documentation, the Financial Aid Review Committee will notify the student of the decision by email communication or the student may view their updated status on myUCF, Student Center, under "View Financial Aid Status." Students reinstated on Financial Aid Probation will be required to have an academic plan that will be monitored by the Office of Student Financial Assistance.

For detailed SAP policy information, please refer to the Office of Student Financial Assistance website at finaid.ucf.edu/receiving/sap.html.

Satisfactory Academic Progress Probation

Students who submit a SAP Appeal that is approved will be placed on Financial Aid Probation, and will remain on probation as long as they successfully comply with the prescribed academic plan that is submitted as part of the SAP Appeal. Progression will be monitored during the probationary period at the beginning and end of each semester to ensure the student is following the prescribed academic plan and successfully matriculating through their program of study. All probation students must successfully complete a minimum of 70% of the credit hours that they attempt each semester. In addition, student on probation for GPA and/or completion ratio must make positive progression in the appropriate area(s). Financial disbursements will not be made for a semester unless it is verified that the prior review (if applicable) was acceptable and student is in the proper classes for the term in question.

Graduate Certificate Programs

There are a very limited number of Certificate Programs that are eligible for federal financial aid funding. Only course work required for the program will be considered in calculating aid eligibility. Financial aid disbursements will take place after the Drop/Swap and Add period and courses have been verified, along with confirmation of academic engagement. Students must meet all eligibility requirements prior to disbursement.

Students enrolled in approved certificate programs, must adhere to the following:

- Federal financial aid is available for up to 27 attempted credit hours at the Graduate Certificate classification.
- Must meet the minimum GPA requirements for the Graduate Certificate Program.
- The appeal process is the same as indicated below. In cases of unsuccessful completions or reaching the maximum hours limit, the Academic Plan for Financial Aid is required. Satisfactory Academic progress (SAP) will be reviewed at the end of each semester.

Over Awards

An over award occurs when a student's award package has exceeded either the unmet need or Cost of Attendance. To prevent over awards, students are required to notify the Office of Student Financial Assistance of any potential/anticipated awards not already listed on the student's financial aid award summary of myUCF, Student Center. This includes waivers or scholarships that are awarded to students at the beginning of the semester or during the academic year. If the Office of Student Financial Assistance is not aware of additional resources prior to disbursing aid, then that aid (including loans), may have to be reduced and sometimes paid back by the student if the resource creates an over award. A hold will be placed on the students account preventing future registration and the ability to receive academic transcripts until the over award has been fully repaid to the university. Students are advised to discuss the impact of receiving scholarship funding after other financial aid funds have disbursed with the financial aid office.

Refunds and Return of Title IV Funds

Students should be aware that if they withdraw from the university after having received financial assistance, they may be required to repay a portion of that assistance. Students who received Federal Direct Stafford Loans should also know that the Registrar's Office is required to notify the National Student Loan Data System (NSLDS) of student withdrawals. This may change their loan deferment status with their loan servicer(s). Information about late drops, withdrawals and medical withdrawals can be found on the Office of Student Financial Assistance website at finaid.ucf.edu/general-info/withdrawals/.

Professional Judgment

The federal methodology used to determine eligibility for federal student aid is a standardized calculation for all applicants. However, in some cases, special circumstances may be taken into consideration. Students with extenuating circumstances (i.e. loss of employment, divorce, death of spouse, etc.) should meet with a financial aid counselor to review the situation. If a student presents extenuating circumstances, an appeal can be submitted to include support documentation for review. The appeal will be reviewed and a decision will be made through the Professional Judgment review process.

Repeated Coursework

Federal regulations state that students may only receive federal financial aid funding for one repetition of a previously passed course. As a result, any repeated course(s) that the student enrolls in (current or future terms) cannot be used in the calculation of his/her enrollment level for financial aid purposes for that particular term, regardless of whether or not financial aid was received for the course(s). The repeated course(s), including the original attempt, must be counted towards maximum time frame and hours completion ratio requirements for Satisfactory Academic Progress purposes, which can impact a students financial aid eligibility. For detailed information,visit finaid.ucf.edu/receiving/repeat-coursework/.

Student Rights and Responsibilities

Students have the right to full information about the financial aid programs available at UCF, application procedures, aid deadlines and the criteria used to determine a financial aid package. Students have the right to appeal decisions made by the Office of Student Financial Assistance. Students also have the right to equitable treatment of their financial assistance applications. Although each student's case is analyzed individually, eligibility standards are applied uniformly without regard to race, gender, religion, creed, national origin, or disability. All students' records are confidential. It is the student's responsibility to review and understand all information and instructions, meet all deadlines, and provide all information and documentation accurately. Errors and omissions can cause delays and prevent students from receiving assistance. Misrepresentation is a violation of federal regulations.

Tuition and Fees

STUDENT ACCOUNT SERVICES

Sr. Associate Controller: Kelly D'Agostino
Millican Hall, Room 109
Phone (407) 823-2433
E-mail: stuaccts@ucf.edu
Web Address: www.studentaccounts.ucf.edu

General Information

Student Account Services is here to serve the students who attend the University of Central Florida by maintaining accurate financial records and communicating with students concerning their accounts.

Student Account Services is responsible for:

- Tuition and Fee Assessment/Refunds (Student Account Services)
- Processing Payments
- Overdue payment and institutional loans collection (Loans and Collections)

Schedule of Fees
Note: 2017-2018 tuition and fees have not been established at the time of this publication. Rates for the 2017-2018 academic year will be available in July 2017 at tuitonfees.ikm.ucf.edu. Fees are subject to change without notice. *Please note the current tuition and fees link will be changed and updated by Student Account Services.

Tuition and Fees: Tuition and fees are established by the State Legislature and the University Board of Trustees and are subject to change without notice. Fees are affected by residency status. Tuition and fees are charged per semester or term for main campus, regional campus, and continuing education courses. Tuition is assessed on a per credit hour basis. Students classified as zero-hour registration students are assessed one credit hour at the Florida Resident Tuition rate at the course level for which the student is registered.

Tuition Fee Invoice: A student's Fee Invoice will show all tuition and fee charges, payments and deferments associated with the term, and courses in which the student is currently enrolled. The Fee Invoice will not show fees such as housing, library, parking, etc. Tuition Fee invoices are available 24/7 on the web https://my.ucf.edu, and from the student's college advising offices. Students should review their current Tuition Fee Invoice prior to making a payment. **Tuition Fee invoices are not mailed.** The Tuition Fee Invoice should be reviewed once after initial registration of courses and also after making any changes to the initial registration to ensure that the fees are adjusted accordingly.

Fee Payment Deadlines: All university tuition and fees must be paid by the published dates. Tuition and fees not paid or deferred by the payment deadline date for each term will result in late fees and may result in the cancellation of all classes. Refer to the Academic Calendar each term for the fee payment deadlines.

Limited Non-Degree Enrollment Classes: Payment guidelines for Limited Non-Degree enrollment classes can be found on the "Registration Form for Non-Admitted Students." It is the student's responsibility to officially drop or withdraw from courses to avoid additional financial obligations.

Student Financial Responsibility Statement

Registration at UCF requires students to acknowledge the following financial responsibility statement:
I understand that I will be responsible for tuition and fees for all courses that remain on my record after the drop deadline and that the courses will be graded. I accept responsibility for payment of my term tuition and fees by the published deadline. I understand that if I do not pay my tuition and fees or do not pay these fees by the deadline, I will be charged a $100 Late Payment Fee, my records will be placed on hold, my account will be referred to a collection agency, and I agree to reimburse the fees of any collection agency, which may be based on a percentage of the debt collected, and all costs and expenses, including reasonable attorneys fees incurred in such collection efforts.

The deadline to DROP classes without incurring a W Grade and Fee Liability will be one day earlier than the deadline to ADD classes. Please consult the Academic Calendar or the Enrollment Bulletin Board in Student Self Service for these deadlines.

Note: The Fall 2017 Financial Responsibility Statement had not been established at the time of this publication.

Payment Procedures

Payment must be received or postmarked no later than the fee payment deadlines as specified on the Academic Calendar. The primary form of payment of most account holders is online through the E-pay system via the myUCF portal. Currently students can pay using a check or a credit card in this system. **Payments cannot be transacted by telephone.**

Acceptable Forms of Payment:

- Personal Checks
- Credit Cards (Acceptable credit card types are subject to change). Please review the Student Account Services website: www.studentaccounts.ucf.edu for current payment information.

E-Pay (https://my.ucf.edu)E-Check (Personal Check) or Credit Card

- A nonrefundable convenience fee or processing fee will apply per credit card transaction.
- Payments made at anytime on the date of the published fee payment deadline will be considered on time. See the Academic Calendar.

E-Pay process:

Sign in the myUCF portal then click on the link for ***Student Self Service***; this will open your Student Center page. Use the right scroll bar to scroll to the Finance section. You will find a section for **Student Accounts**.

- Click on the link for the ***Tuition Fee Invoice***. Select the current term (i.e. Summer 2017, Fall 2017 or Spring 2018). The Fee Invoice will provide you your schedule, the charges, the Amount Due and deferrals.
- Annotate the Amount Due as you will need that amount once you are on the E-pay system.
- Scroll down to the bottom of the page and click the link to *Due Charges/E-Pay* link to make a payment.

Mailed payments: (Please do not send cash)

- Include student's name and PID# on checks or money orders (make check payable to the University of Central Florida).
- Address payments to:

University of Central Florida
Student Account Services
Attn: Payment Processing
P.O. Box 160115
Orlando, FL 32816-0115

Main Campus - Provides a 24-Hour Depository - Millican Hall (main campus) at Reflection Pond Entrance. (No Cash)

Regional Campuses: the University of Central Florida now requires all tuition and fees to be paid electronically. While there are no longer direct cashiering services available on the Regional Campuses, student can pay all tuition and fees electronically, either by credit card or personal check. Additionally, payments may be mailed to: UCF Student Account Services, Attn: Payment Processing, PO Box 160115, Orlando, FL 32816-0115.

Other Forms of Payment

Tuition and Fees may be partially or completely paid by financial aid, Florida Prepaid, tuition waivers, or departmental grants. The student is responsible to pay any amount that is not covered by these types of payments by the payment deadline on the fee invoice as described under Payment Procedures.

Financial Aidsee Student Financial Assistance for rules and procedures. All fees not deferred by financial aid are due by the fee payment deadline. Students enrolled in graduate courses used towards a baccalaureate degree, may be assessed an Excess Credit Hour fee. Please note that some financial aid awards cannot pay the Excess Credit Hour fee. This may result in the student having to make the payment out of pocket for the individual fee.

UCF Payment Plan

The UCF payment plan is a 2-payment design in which the student pays $15 upfront to be allowed to pay only 50% of the total tuition bill by the regular payment deadline, therefore avoiding a late payment fee, and being dropped for non-payment. The student is then responsible for paying the remaining 50% by the Payment Plan deadline on their Fee Invoice. Students receiving financial aid, Florida Prepaid, waivers, or third party payments already have an extended payment deadline and will not be eligible for the UCF payment plan.

For information regarding Florida Prepaid College Plan or Tuition Waivers please refer to the Student Account Services website.

Tuition and Fees for Senior Citizens

Persons 60 years of age or older who meet Florida residency requirements may register to audit classes on a space-available basis without payment of tuition and application fees. Registration is on a **space-available basis**; see the appropriate terms Academic Calendar www.registrar.sdes.ucf.edu/calendar/academic/ for registration dates and times. The tuition fee waiver cannot be used for courses that require increased costs (such as thesis, dissertation, and directed individual study). A Florida Residency Affidavit is required to establish Florida residency. A completed Student Health History form must be filed prior to registration. Inquiries should be directed to the Registrars Office (MH 161; Telephone: 407-823-3100).

Refund of Fees

A refund of fees will be processed under the conditions noted below. The student must submit a written appeal for a refund or other appeal action to the university within six months of the close of the semester/term to which the refund or other appeal action is applicable. Any debts to the university will be deducted from the refund, up to the full amount.

Full Refund Eligibility

The following conditions allow a full refund: 1) A class is dropped before the end of the Drop period; 2) Cancellation of a course by the university.

Partial Refund (25%)

Twenty-five percent of tuition and associated fees assessed and paid, adjusted for waivers is refundable when the student withdraws **completely** from the University prior to the end of the fourth week of classes during a 16 or 17 week semester, or at the end of the first quarter of classes during a summer session.

A written appeal for a refund or other appeal action must be submitted to the University within six (6) months of the close of the semester to which the refund or other appeal action is applicable.

Exceptional Circumstances

Refunds for exceptional circumstances are available upon an administrative drop from one or more courses. Up to 100 percent of tuition and registration fees are refundable if due to circumstances determined by the university to be exceptional, including, but not limited to, sickness, death, involuntary call to military service, or university administrative error. If approved, a Late Withdrawal does not result in a refund of tuition and fees.

A written appeal for a refund or other appeal action must be submitted to the university with six (6) months of the close of the semester to which the refund or other appeal action is applicable.

Direct Deposit

Students are strongly encouraged to establish direct deposit with the university. Direct Deposit prevents delays due to lost checks or change of address. All refunds from students' accounts can be direct deposited into the students checking account to any U.S. bank of their choice. Funds are usually available within 24-48 hours after disbursement, and enrollment only takes a few minutes. To enroll, sign in at https://my.ucf.edu and click on Student Self Service. Go to the Student Accounts Services link, and then click on Direct Deposit and follow the instructions.

Past Due Accounts

All financial obligations to the university must be met. **Failure to meet obligations can result in the withholding and denial of registration, diploma, transcripts and readmission to the university**. The services of a professional collection agency and recourse to the courts may also be invoked if deemed necessary. All costs of collection, including attorney's fees, are borne by the debtor.

Do not assume your registration will be canceled if you fail to pay fees or attend classes. Tuition deferrals, for example, will prevent class cancellation for non-payment. Payment guidelines for off-campus registration are contained on the off-campus registration form.

Late Fees

Late Payment Fees apply to students who do not pay their fees or who do not pay their fees (or obtain a full fee deferment) by the payment deadline. The Late Payment Fee is $100 per term.

Late Registration Fees are charged to students who enroll following the close of the regular registration period for the term, who re-register, or who enroll for the first time that term during Late Registration and Drop/Swap and Add period. The Late Registration Fee is $100 per term.

Administrative Procedures Act

The University of Central Florida, under applicable rules of the Administrative Procedures Act, may change any of the announcements, information, policies, and rules, regulations or procedures set forth on the Registrar's Office website. Statements in the Registrar's Office website may not be regarded in the nature of binding obligations on UCF or the state of Florida. While every effort will be made to accommodate the curricular needs of students, limited resources may prevent the University from offering all required courses in each term or in day and evening sessions. Students should refer to the current Undergraduate Catalog or the Graduate Catalog for the complete Policy Statement.

University Accreditation

OVERVIEW

The University of Central Florida is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award degrees at the associate, baccalaureate, master's, specialist and doctoral levels. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call (404) 679-4500 for questions about the accreditation of the University of Central Florida.

Please note the commission’s expectation that contact occur only if there is evidence to support significant non-compliance with a requirement or standard. For other information about UCF’s SACSCOC accreditation, please contact the university’s SACSCOC liaison in UCF’s Office of Academic Affairs.

For the purposes of this catalog, "accredited institutions" means those institutions accredited by one of the seven U.S. regional associations. The seven regional associations are:

- Commission on Institutions of Higher Education, New England Association of Schools and Colleges
- Middle States Commission on Higher Education
- Higher Learning Commission of the North Central Association of Colleges and Schools
- Northwest Commission on Colleges and Universities
- Southern Association of Colleges and Schools Commission on Colleges
- Accrediting Commission for Senior Colleges and Universities, Western Association of Schools and Colleges
- Accrediting Commission for Community and Junior Colleges, Western Association of Schools and Colleges

GRADUATE ADMISSION REQUIREMENT

In order to enroll in graduate classes, students must have obtained a baccalaureate or higher degree, prior to the start of the term for which the student is admitted, from an institution accredited by one of the above accrediting agencies or from a recognized foreign institution. Students without a baccalaureate or higher degree from an accredited institution (or equivalent) are not admitted to graduate degree programs, graduate certificate programs, or graduate nondegree status.

RECOGNIZED INSTITUTION

A "recognized institution" in a country outside of the United States is an institution that is recognized by that nation's Ministry of Education or similar authority, as a post-secondary, academic-degree-granting institution.

OTHER ACCREDITATIONS

In addition to the regional accreditation agencies, there are a number of scientific, professional, and academic bodies conferring accreditation in specific disciplines. Several UCF graduate programs are accredited or are similarly recognized by one or more of the following agencies:

- The Association to Advance Collegiate Schools of Business (AACSB International)
- National Council for Accreditation of Teacher Education (NCATE)
- National Association of School Psychologists (NASP)
- Council for Accreditation of Counseling and Related Educational Programs (CACREP)
- Florida Department of Education
- Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA)
- Commission on Collegiate Nursing Education (CCNE)

- Council on Social Work Education (CSWE)
- Commission on Accreditation in Physical Therapy Education (CAPTE)
- National Association of Schools of Music (NASM)
- Accreditation Committee of the Human Factors and Ergonomics Society
- American Psychological Association (APA)
- Network of Schools of Public Policy, Affairs and Administration (NASPAA)
- Commission on Accreditation of Healthcare Management Education (CAHME)
- Liaison Committee on Medical Education (LCME)
- National Association of Schools of Theatre (NAST)

UCF Online

Courses

UCF offers hundreds of online courses to all students every semester. The online course materials and methods have been developed by UCF faculty members to maximize the learner's achievement of course and program objectives, and to provide students with convenient and flexible learning opportunities.

Support for all students in online courses is available at cdl.ucf.edu/learn-online. Online courses are identified in the Class Schedule Search available at my.ucf.edu. In the Additional Search Criteria section, use the drop-down list next to Mode of Instruction to search for the values described below.

Online instruction modes are:

WORLD WIDE WEB (W): These are courses conducted via web-based instruction and collaboration. Some courses may require minimal campus attendance or in-person/proctored examinations.

VIDEO STREAMING (V): These are courses delivered over the web via streaming digital video which may be supplemented by additional web activity, projects or exams.

VIDEO STREAMING/REDUCED SEAT TIME (RV): In these courses, classroom-based content is available over the web via streaming video and classroom attendance is not required. Other required activities that substitute for video instruction may include any of the following elements: web activity, in-person or proctored examinations, and labs. See course notes for details.

MIXED-MODE/REDUCED SEAT TIME (M): These courses include both required classroom attendance and online instruction. Classes have substantial activity conducted over the web, which substitutes for some classroom meetings.

Programs

UCF offers dozens of graduate degree and certificate programs that can be completed exclusively online. UCF Online provides an option for students who are interested in taking online courses exclusively. UCF Online students may not enroll in classes with scheduled face-to-face meetings.This includes classes coded P (face-to-face instruction), and M (Mixed mode/reduced seat time). Students admitted into a UCF Online program are exempt from some campus-based fees and are restricted from the corresponding campus-based services such as the Recreation and Wellness center and Student Health Services. UCF Online students do have access to all academic and support services such as financial aid, advising, library services, and career services. UCF Online students also have the support of a dedicated staff of success coaches specifically trained and enabled to meet the needs of students without regular access to UCF's physical campuses. See www.ucf.edu/online for more information.

Online Graduate Certificates

- Applied Operations Research
- Autism Spectrum Disorders
- Community College Education
- Corrections Leadership
- Design for Usability*
- Destination and Marketing Management
- e-Learning Professional Development
- Event Management
- Fundraising
- Gender Studies
- Gifted Education
- Health Information Administration
- Health Care Simulation
- Initial Teacher Professional Preparation
- Instructional Design for Simulations
- Instructional/Educational Technology
- Juvenile Justice Leadership
- Mathematical Science
- Nonprofit Management
- Nursing Education
- Police Leadership
- Pre-Kindergarten Disabilities
- Professional Writing
- Project Engineering
- Public Administration
- Quality Assurance
- Research Administration
- Special Education
- Systems Engineering
- Theoretical and Applied Ethics

Fully Online Graduate Degree Programs

- Aerospace Engineering - Thermofluid Aerodynamic, Systems Design and Engineering Track (MSAE)*
- Applied Learning and Instruction (MA)
- Career and Technical Education (MA)
- Criminal Justice (MS)
- Criminal Justice (MS) - Public Administration (MPA) Dual Degree Track
- Digital Forensics (MS)*
- Educational Leadership (MA)
- Engineering Management (MSEM)*
- English, Technical Communication Track (MA)
- Exceptional Student Education (MEd)
- Forensic Science (MS)

- Health Care Informatics - Professional Science Master's Track (PSM)
- Health Sciences, Executive Health Services Administration Track (MS)
- Industrial Engineering, Healthcare Systems Engineering Track (MS)
- Hospitality and Tourism Management (MS)
- Industrial Engineering (MSIE)*
- Industrial Engineering (MS)*
- Instructional Design and Technology - Educational Technology Track (MA)
- Instructional Design and Technology - e-Learning Track (MA)
- Instructional and Technology - Instructional Systems Track (MA)
- Master of Social Work - Online Part-time Track (MSW)
- Materials Science and Engineering (MSMSE)*
- Mechanical Engineering - Mechanical Systems Track (MSME)*
- Mechanical Engineering - Thermofluids Track (MSME)*
- Nonprofit Management (MNM)
- Nonprofit Management (MNM) - Out of State Cohort (MNM)
- Nonprofit Management (MNM) - Public Administration MPA Dual Degree Track
- Nursing - Leadership and Management Track (MSN)
- Nursing - Nursing an Health Care Simulation Track (MSN)
- Nursing Practice (DNP)
- Nursing - Executive Track (DNP)
- Nursing (PhD)
- Public Administration (MPA)
- Public Administration (MPA) - Criminal Justice (MS) Dual Degree Track
- Public Administration (MPA) - Nonprofit Management MNM Dual Degree Track
- Research Administration (MRA)

*Note: There may be some courses in the degree and certificate programs above that require limited on-campus attendance for examinations or other activities.

Due to restrictive state regulations, UCF is not permitted to provide online courses or instruction to students residing in some states. The list of states currently restricted is available at cdl.ucf.edu/learn-online/state-restrictions/. While residing in one of these states you may not be permitted to enroll in or be admitted to a UCF online program.

Contact

UCF Online

855-903-8576

Web Address: **www.ucf.edu/online/**

UCF Connect

The University of Central Florida also offers a number of programs through UCF Connect in your neighborhood. Strategically located within an 80-mile radius of the UCF Orlando campus, the multiple nonresidential locations operate in partnership with six Florida state colleges, fostering seamless and convenient advancement from completion of an associate's degree (AA or AS) to upper division studies that culminate in the awarding of a baccalaureate degree. Academic programs accessible vary by location and include over 30 distinct bachelor's degrees, with numerous associated minors, and access to multiple graduate degrees and certificates. All in partnership with nine UCF colleges.

UCF Connect utilize convenient schedules, and a wide variety of instructional formats, including online class and degree availability. Times and dates for all courses are listed online prior to registration each term and all registration periods correspond to the overall UCF schedule.

Admissions, registration, financial assistance and advising professionals are located at the following full-service campuses: UCF at Cocoa, UCF at Daytona Beach, UCF Valencia West and Osceola, UCF Seminole and UCF South Lake. In addition, advising and student services are provided through UCF Palm Bay and Ocala.

Additional resources available at UCF Connect include: student clubs and organizations, disability services, veteran's affairs, libraries, computer labs, "smart classrooms," and more.

Even the smaller instructional locations provide students with an opportunity to enroll in selected courses contributing to undergraduate and graduate degrees in a variety of disciplines. In response to community needs, the UCF Connect also offer programs and courses in other, off-campus locations on an "as needed" basis. UCF Orlando students may register full time or part time for courses available at any of the locations without additional paperwork.

For the most current information on any of the multiple UCF Connect locations, programs or class schedules, check the website at regionalcampuses.ucf.edu.

For program listings: regionalcampuses.ucf.edu/academics

- UCF Cocoa (In partnership with Eastern Florida State College) (321) 433-7821
- UCF Daytona Beach (in Partnership with Daytona State College) (386) 506-4021
- UCF Leesburg (in Partnership with Lake-Sumter State College) (352) 536-2113
- UCF Ocala (in Partnership with College of Central Florida) (352) 854-2322 x1824
- UCF Palm Bay (in Partnership with Eastern Florida State College) (321) 433-7838
- UCF Sanford/Lake Mary (in Partnership with Seminole State College) (407) 708-2471

- UCF South Lake (in Partnership with Lake-Sumter State College) (352) 536-2113
- UCF Valencia Osceola (in Partnership with Valencia College) (321) 682-4190
- UCF Valencia West (in Partnership with Valencia College) (407) 582-5500

Contact

UCF Connect

Vice Provost: J. Jeffrey Jones, PhD

Web Address:
www.regionalcampuses.ucf.edu

DOCTORAL PROGRAMS

Biomedical Sciences PhD

- MD / PhD

PROGRAM DESCRIPTION

The Biomedical Sciences PhD program is an interdisciplinary program that combines biological and physical science. This program is intended to educate students in independent research and team collaboration within the field.

CURRICULUM

The Biomedical Sciences PhD program requires a minimum of 72 credit hours beyond the bachelor's degree, including a minimum total of 27 hours of formal course work exclusive of independent study that are required.

The program requires 23 credit hours of core courses, 12 credit hours of electives, and a minimum of 15 credit hours of dissertation research. The remaining 22 credit hours may consist of additional electives, doctoral research and/or dissertation research. Students with an earned master's degree may request that up to 30 credit hours of previous course work be waived.

New students will take a two-semester introductory course, participate in laboratory rotations to identify a research area of interest, and take a sequence of required seminars.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Programmatic deficiencies expected of applicants from diverse settings will be addressed early in the program by completion of appropriate course work. Students entering with a master's degree may request that up to 30 semester credit hours of previous course work be waived as degree requirements with approval from the dissertation committee. Students may register for doctoral research until they have been admitted to candidacy, after which they must register for dissertation research.

New students will take a two-semester course that provides an introduction to the interdisciplinary area of biomedical sciences. In addition, a laboratory rotation will allow students to have a brief but intensive experience working with faculty in at least two different research laboratories to find a research area of interest for their dissertation. Finally, a sequence of required seminars will familiarize students with field-related literature and introduce them to the conceptual and technical frameworks in which they will work. All students receiving assistantships must enroll full time.

Required Courses—23 Credit Hours

- BSC 6432 Structure-Function-Relationships of Biomedical Sciences I (5 credit hours)
- BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hours)
- IDS 7692L Experiments in Biomedical Sciences (lab rotation) (3 credit hours)
- IDS 7692L Experiments in Biomedical Sciences (lab rotation) (1 credit hour)
- IDS 7690 Frontiers in Biomedical Sciences (four semesters, 1 credit hour each semester)
- BSC 6431 Practice of Biomedical Science (3 credit hours)

- IDS 6694 Experimental Design and Analysis in Biomedical Sciences (2 credit hours)

Elective Courses—12 Credit Hours

At least 12 hours of electives must be taken from the following list. Any electives not on this list must be approved by the Graduate Committee before being counted toward degree credit requirements. Directed research, doctoral research and dissertation research may be used to satisfy requirements beyond the first 12 hours, with approval from the program director.

- BSC 5418 Tissue Engineering (3 credit hours)
- BSC 5436 Biomedical Informatics: Structure Analysis (3 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- CAP 5510 Bioinformatics (3 credit hours)
- CHM 5305 Applied Biological Chemistry (3 credit hours)
- CHM 5450 Polymer Chemistry (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHS 6251 Applied Organic Synthesis (2 credit hours)
- CHS 6535 Forensic Molecular Biology (3 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6536 Forensic Analysis of DNA Data (2 credit hours)
- GEB 5516 Technology Commercialization (3 credit hours)
- IDS 5127 Foundations of Bio-Imaging Science (3 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5208 Cellular Microbiology: Host-Pathogen Interactions (3 credit hours)
- MCB 5209 Microbial Stress Response (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 5722C Methods in Biotechnology (4 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)
- PCB 5235 Molecular Immunology (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5265 Stem Cell Biology (3 credit hours)
- PCB 5275 Signal Transduction Mechanics (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- PCB 5596 Biomedical Informatics: Sequence Analysis (3 credit hours)
- PCB 5665C Human Genetics (4 credit hours)
- PCB 5815 Molecular Aspects of Obesity, Diabetes, and Metabolism (3 credit hours)
- PCB 5838 Cellular and Molecular Basis of Brain Functions (3 credit hours)
- PCB 6528 Plant Molecular Biology (3 credit hours)
- PCB 6585C Advanced Genetics (4 credit hours)
- PCB 6595 Regulation of Gene Expression (3 credit hours)
- PCB 6677 Molecular Evolution and Phylogenetics (3 credit hours)
- ZOO 5748C Clinical Neuroanatomy (3 credit hours)

Unrestricted Electives—22 Credit Hours Minimum

Students should take 22 credit hours of electives, directed research, doctoral research or dissertation research, in consultation with their adviser.

Dissertation—15 Credit Hours Minimum

- IDS 7980 Dissertation Research (15 credit hours)

Cumulative/Qualifying Examinations

Cumulative examinations taken during the second year will determine if students should continue with their doctoral studies. Exams will be overseen by a cumulative exam committee. Each exam will consist of questions set by different faculty members. Questions will deal with data interpretation from the current literature and the design of experiments to test a hypothesis. A student must satisfactorily answer cumulative examination questions, displaying a knowledge base consistent with continuation in the PhD program.

Candidacy Examination

Candidacy will consist of writing and orally defending a proposal outlining a novel research idea to the dissertation committee. The written proposal will be prepared independently, following NIH-style grant format, and must be approved by the dissertation committee (see Biomedical Sciences PhD Program Handbook for full description of Candidacy Exam requirements and procedures). After passing the candidacy examination and meeting other requirements as specified, the student can register for dissertation hours.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Successfully complete a minimum of 48 credit hours.
- Successful completion of all course work, except for dissertation hours.
- Successful completion of all examinations (cumulative/qualifying and candidacy).
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Dissertation Defense

The dissertation should be of significant scope and depth such that the work has made significant advances in the area of biomedical science. *The PhD dissertation research must generate sufficient quantity and quality data to support a minimum of two original manuscripts (first-authored by the student) in a mainstream journal in the field. At a minimum, one first-author paper must be published, and a second manuscript should have been submitted and subjected to peer review.*

Upon completion and approval of the doctoral dissertation by all designated faculty and university offices, the student will make a formal presentation of the research findings in seminar format to the dissertation committee and other university faculty and students. The candidate will answer questions and defend conclusions about the subject matter.

For more information, see the General Guidelines for Alternative Organization in the Thesis and Dissertation Manual of the College of Graduate Studies Thesis and Dissertation office.

INDEPENDENT LEARNING

The dissertation serves as the independent learning experience.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, a statement of research interest, purpose and relevant work/research experience, a résumé, and a personal or telephone interview.

Applicants entering the program with regular status are expected to have completed course work required for a bachelor's degree in chemistry, cell biology, biochemistry, biophysics, genetics, molecular biology or microbiology.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Statement of research interest and purpose, including a summary of relevant work or research experience.
- Résumé or CV.
- A personal or telephone interview.

Admission is based on an overall assessment of the qualifications submitted and the interview. All admissions to graduate status are competitive and based on availability of faculty for sponsoring research.

Application Deadlines

Biomedical Sciences PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 15	Dec 15		
International Applicants	Dec 15	Dec 15		
International Transfer Applicants	Dec 15	Dec 15		

CONTACT INFO

Saleh Naser PhD
Professor
Program Director
saleh.naser@ucf.edu
407-823-0955
UCF College of Medicine

Biomedical Sciences PhD

MD/PhD

TRACK DESCRIPTION

The College of Medicine offers an integrated MD/PhD curriculum that enables students to fulfill all requirements and earn the Doctor of Medicine and the Doctor of Philosophy.

This program provides opportunity for MD students to obtain advanced research and training experience and for PhD students to obtain medical training. The program develops physician-scientists with preparation for both academic research and teaching careers. Physician-scientists are in an excellent position to facilitate bench-to-bedside translation of applicable research findings.

CURRICULUM

Students must fulfill all requirements for both programs to earn both the MD and PhD degrees. As indicated in the curriculum description, some medical modules can be substituted for certain graduate courses and vice versa to help reduce redundancy and streamline time to completion of this integrated program. Students will be able to complete the MD/PhD program in as few as 6 years, although most students will likely require 7-8 years to fulfill all of the requirements. An MD/PhD program committee consisting of faculty from both the medical and graduate programs will serve as the oversight committee responsible for tracking and evaluating student progress in this program.

Total Credit Hours Required:
72 Credit Hours Minimum beyond the Bachelor's Degree

Students in the integrated MD/PhD Track in Biomedical Sciences must be accepted in the College of Medicine MD program and begin working on their PhD research project during the first two years of medical school. Students take medical courses during the first two years and must successfully pass the USMLE Step 1 exam at the end of year 2 prior to beginning full-time graduate studies in the Biomedical Sciences PhD Program. Required and elective graduate courses for the PhD program are completed in years 3-4 while the student is continuing research. Clinical clerkships that are typically completed in years 3-4 of medical school will in most cases be deferred until the student has completed the PhD program requirements, though some minimum level of ongoing clinical training will continue throughout the entire duration of the program. This ensures that the student remains connected with clinical education and training even while primarily focused on the graduate portion of the MD/PhD program.

The Biomedical Sciences PhD program requires a minimum of 72 credit hours beyond the bachelor's degree, including a minimum total of 27 hours of formal course work exclusive of independent study that are required. The 72 credit hours in the PhD program consists of 23 credit hours of core courses, 12 credit hours of electives, and a minimum of 15 credit hours of dissertation research. The remaining 22 credit hours may consist of additional electives, doctoral research and/or dissertation research. Students entering with a master's degree may request that up to 30 semester credit hours of previous course work be waived as degree requirements with approval from the dissertation committee.

The MD curriculum can be found here: http://med.ucf.edu/academics/md-program/integrated-curriculum/

Programmatic deficiencies expected of applicants from diverse settings will be addressed early in the program by completion of appropriate course work. Students may register for doctoral research until they have been admitted to candidacy, after which they must register for dissertation research.

New students will rotate through at least two different laboratories to identify a faculty mentor/sponsor and research area of interest for their dissertation. Finally, a sequence of required seminars will familiarize students with field-related literature and introduce them to the conceptual and technical frameworks in which they will work. All students receiving assistantships must enroll full time.

MD/PhD students are required to maintain good academic standing in both the MD and PhD components of the curriculum. Students must first satisfactorily complete the first two years of the medical school curriculum and pass the USMLE Step 1 exam before they can begin full-time PhD enrollment.

Required Courses—23 Credit Hours

- BMS 6001 Cellular Function and Medical Genetics (Medical Module replaces BSC 6432) (5 credit hours)
- BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hours)
- IDS 7692L Experiments in Biomedical Sciences (lab rotation) (3 credit hours)
- IDS 7692L Experiments in Biomedical Sciences (lab rotation) (1 credit hour)
- IDS 7690 Frontiers in Biomedical Sciences (four semesters, 1 credit hour each semester)
- BSC 6431 Practice of Biomedical Science (3 credit hours)
- IDS 6694 Experimental Design and Analysis in Biomedical Sciences (2 credit hours)

Elective Courses—12 Credit Hours

At least 12 hours of electives must be taken from the following list. Any electives not on this list must be approved by the Graduate Committee before being counted toward degree credit requirements. Directed research, doctoral research and dissertation research may be used to satisfy requirements beyond the first 12 hours, with approval from the program director. Students successfully completing the first year of medical school at UCF may substitute the following medical modules to fulfill the elective course requirement:

- BMS 6006 Health and Disease (Medical Module) (5 credit hours)
- BMS 6050 Psychosocial Issues in Healthcare (Medical Module) (4 credit hours)
- BMS 6631 Hematology and Oncology (Medical Module) (3 credit hours)

Additional electives may be taken as needed from the following list of approved graduate courses:

- BSC 5418 Tissue Engineering (3 credit hours)
- BSC 5436 Biomedical Informatics: Structure Analysis (3 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- CAP 5510 Bioinformatics (3 credit hours)
- CHM 5305 Applied Biological Chemistry (3 credit hours)
- CHM 5450 Polymer Chemistry (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHS 6251 Applied Organic Synthesis (2 credit hours)
- CHS 6535 Forensic Molecular Biology (3 credit hours)

- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6536 Forensic Analysis of DNA Data (2 credit hours)
- GEB 5516 Technology Commercialization (3 credit hours)
- IDS 5127 Foundations of Bio-Imaging Science (3 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5208 Cellular Microbiology: Host-Pathogen Interactions (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 5722C Methods in Biotechnology (4 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 5397 ST: Cellular Metabolism (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)
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- PCB 6595 Regulation of Gene Expression (3 credit hours)
- PCB 6677 Molecular Evolution and Phylogenetics (3 credit hours)
- ZOO 5748C Clinical Neuroanatomy (3 credit hours)

Unrestricted Electives—22 Credit Hours Minimum

Students should take 22 credit hours of electives, directed research, doctoral research or dissertation research, in consultation with their adviser.

Dissertation—15 Credit Hours Minimum

- IDS 7980 Dissertation Research (15 credit hours)

Cumulative/Qualifying Examinations

Cumulative examinations will determine if students should continue with their doctoral studies. Four exams will be given by program faculty members during the second year. Each exam will consist of four questions set by different faculty members to evaluate the student's ability to interpret data, formulate a hypothesis based on the data presented, and effectively design a series of experiments using biomedical science approaches to test their hypothesis. Performance will be evaluated by the graduate exam committee. A student must satisfactorily answer 10 cumulative questions out of 16 to be eligible to continue in the PhD program.

Candidacy Examination

Candidacy will consist of writing and orally defending a proposal outlining a novel research idea to the dissertation committee. The written proposal will be prepared independently, following NIH-style grant format, and must be approved by the dissertation committee (see Biomedical Sciences PhD Program description for full description of Candidacy Exam requirements and procedures). After passing the candidacy examination and meeting other requirements as specified, the student can register for dissertation hours.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Successfully complete a minimum of 48 credit hours.
- Successful completion of all course work, except for dissertation hours.
- Successful completion of all examinations (cumulative/qualifying and candidacy).
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Dissertation Defense

The PhD dissertation research must generate sufficient quantity and quality data to support a minimum of two manuscripts (first-authored by the student; already published, accepted or ready for publication) in a mainstream journal in the field. For manuscripts not yet peer-reviewed, the dissertation committee will determine whether the manuscript meets the standards for publication in a mainstream journal.

Upon completion and approval of the doctoral dissertation by all designated faculty and university offices, the student will make a formal presentation of the research findings in seminar format to the dissertation committee and other university faculty and students. The candidate will answer questions and defend conclusions about the subject matter.

For more information, see the General Guidelines for Alternative Organization in the Thesis and Dissertation Manual of the College of Graduate Studies.

INDEPENDENT LEARNING

The dissertation serves as the independent learning experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Interested applicants must first apply to the UCF medical school through AMCAS and indicate on their medical school application that they are applying for MD/PhD.

Students interested in pursuing a combined MD/PhD degree must apply and be accepted into medical school and the Biomedical Sciences PhD program. Separate applications are required, and students wishing to pursue this joint degree program should indicate this and state their reasons on both applications.

AMCAS Application

Applicants must complete an application through the online American Medical College Application Service (AMCAS) at www.aamc.org. AMCAS is the national application service that processes applications for M.D. Programs throughout the nation. Through AMCAS, an applicant may apply to most M.D. programs by completing one application and paying the appropriate fees. AMCAS provides the college with applicant information immediately upon completion of AMCAS transcript verification process.

The AMCAS application period begins in late May and terminates on or before December 15 prior to the year in which the applicant anticipates enrollment. The AMCAS Application deadline is the date when students must submit the application, all fees, original transcripts, and associated data to AMCAS.

Applicants who are selected for medical school interviews at UCF will be invited to apply through the Graduate School portal for the PhD portion of the combined program. Please note that applications that do not come through AMCAS will not be considered for MD/PhD track.

Applicants entering the program with regular status are expected to have completed course work required for a bachelor's degree in chemistry, cell biology, biochemistry, biophysics, genetics, molecular biology or microbiology.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE or MCAT score taken within the last five years.
- Three letters of recommendation.
- Statement of research interest and purpose, including a summary of relevant work or research experience.
- Résumé.
- A personal or telephone interview.
- In addition to the above requirements, students must also meet the requirements for medical school admission: http://med.ucf.edu/administrative-officers/student-affairs/admissions/

Admission is based on an overall assessment of the qualifications submitted and the interview. All admissions to the MD/PhD program are competitive and based on availability of faculty for sponsoring research.

Application Deadlines

MD / PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 15	Dec 15		
International Applicants	Dec 15	Dec 15		
International Transfer Applicants	Dec 15	Dec 15		

CONTACT INFO

Steven Ebert PhD
Associate Professor
Program Director
steven.ebert@ucf.edu
407-266-7047
BBS 421

Business Administration PhD

- Accounting
- Finance
- Management
- Marketing

PROGRAM DESCRIPTION

The Business Administration PhD program prepares students for careers in higher education and management. Students may choose from four tracks: Accounting, Finance, Management and Marketing.

The objective of the doctoral program in Business Administration is to prepare students for academic careers in higher education and management careers within profit and nonprofit organizations. Success in the program is judged by the student's understanding of the issues and methodologies essential to the advancement of knowledge.

CURRICULUM

Total Credit Hours Required:

84 Credit Hours Minimum beyond the Bachelor's Degree

Upon admission to the Business Administration doctoral program, the student will be assigned an adviser. With the approval of the adviser, the student will complete a program of study including the following requirements.

General Preparation and Course Work

- MBA degree or equivalent—30 credit hours: Each track may specify different requirements for this category.
- Major—12-21 hours.
- Minor/Support Area—6-9 credit hours.
- Research Tools—12-15 credit hours: All doctoral students are required to take two applied statistics courses. Other research tool courses will be specified by the track.
- Teaching—Each track will require some education related to teaching. It may take the form of classes, noncredit seminars, mentoring or a teaching requirement.
- Candidacy Examination: The student must successfully complete a comprehensive candidacy examination. This exam has written and oral parts, and covers the candidate's program of study. Students are admitted to candidacy after satisfying all general degree requirements, passing the comprehensive exam, and fulfilling the residency requirement.
- Dissertation—15 credit hours: The student must successfully defend a written dissertation proposal in an oral examination conducted by the student's advisory/dissertation committee. The final defense of the successful dissertation will require an oral examination that concentrates on, but is not limited to, the student's dissertation defense.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements and deadlines. The next admission cycle for this program is Fall 2018. Applicants must choose a track in this program. Track(s) may have different requirements and deadlines. The next admission cycle for this program is Fall 2018.

CONTACT INFO

Taylor Ellis PhD
Associate Dean
College Coordinator
tellis@bus.ucf.edu
407-823-3922
BA2 101B

Business Administration PhD

Accounting

TRACK DESCRIPTION

The Accounting track in the Business Administration PhD program prepares students for careers in higher education and management with in profit and nonprofit industries.

Success in the program is judged by the student's understanding of the issues and methodologies essential to the advancement of knowledge.

CURRICULUM

The Accounting track of the Business Administration PhD program requires 84 credit hours beyond the bachelor's degree. Students must meet prerequisite requirements of 30 credit hours, and then complete 18 credit hours of accounting core courses, 12 credit hours of research methods/tools courses, 9 credit hours of electives, and 15 credit hours of dissertation.

Total Credit Hours Required:

84 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites—Foundation Body of Knowledge—30 Credit Hours

In the Accounting track of the Business Administration PhD program, the foundation body of knowledge may be satisfied with a master's degree in Accounting, Business Administration, Taxation or its equivalent from an Association to Advance Collegiate Schools of Business (AACSB) accredited school that includes certain accounting courses deemed essential by the Accounting PhD director. Alternatively, this requirement may be satisfied by courses approved by the School of Accounting's doctoral advisory committee.

Required Courses—30 Credit Hours

Accounting Core—18 Credit Hours

- ACG 7157 Seminar in Archival Research in Accounting (3 credit hours)
- ACG 7399 Seminar in Behavioral Accounting Research (3 credit hours)
- ACG 7826 Seminar in the Social and Organizational Context of Accounting (3 credit hours)
- ACG 7885 Research Foundations in Accounting (3 credit hours)
- ACG 7887 Accounting Research Forum (6 credit hours) (Workshop, 1 credit hour per semester)

Research Methods/Tools—12 Credit Hours

The research tools requirement is intended to ensure a thorough exposure to research methods. All candidates are expected to demonstrate knowledge of statistical methods as well as usage of statistical packages, including design, analysis, and interpretation of results.

- ECO 7423 Applied Models I (3 credit hours, required course)

- Additional 9 credit hours of research tools courses approved by the student's advisory committee. Examples of courses that will satisfy this requirement include ACG 7837, GEB 7910, STA 5205, PSY 6216C, PSY 6308C, PSY 7218C, ECO 6424, and ISM 7029.

Elective Courses—9 Credit Hours

Restricted—3 Credit Hours

Choose one of the following accounting courses:

- ACG 7888 Seminar in Critical Accounting and AIS (3 credit hours)
- ACG 7917 Advanced Research Methods in Accounting and Accounting Information Systems Research (3 credit hours)
- Other accounting electives as they are developed for the program

Unrestricted—6 Credit Hours

Students must take 6 credit hours in a minor/support area. Students must select a minimum of six credit hours in a unified area approved by the student's doctoral study advisory committee. Each student's program of study is individually tailored to accommodate interests whenever possible. This course work may be developed from offerings in the following areas with the advice and consent of the respective departments and the advisory committee:

- Marketing
- Economics
- Political Science
- Psychology
- Gender Studies
- Management
- Sociology
- Environmental Studies
- Communication
- Philosophy
- Public Affairs

Dissertation—15 Credit Hours

- ACG 7980 Dissertation (15 credit hours minimum)

Admission to Candidacy

Students must complete a comprehensive candidacy examination that includes written and oral portions. Students must defend a written dissertation proposal in an oral examination conducted by the student's advisory/dissertation committee. The final defense of the dissertation will also require an oral examination.

Students officially enter candidacy when the following has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the comprehensive candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Teaching Requirement

The requirements for the teaching component of the degree will be developed with the doctoral program director based on the student's experience. Normally, this requirement will be satisfied through teaching a minimum of three credit hours of class instruction under the direct supervision of a faculty member. As appropriate, students will also be required to attend teaching development workshops and seminars.

INDEPENDENT LEARNING

The dissertation serves as the independent learning experience.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE or GMAT score taken within the last five years, three letters of recommendation, a goal statement, and a résumé; applicants from countries where English is not the official language or applicants with degrees from non-U.S. accredited institutions must achieve a minimum scoree of 233 on the TOEFL.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE or GMAT score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.
- Other: Previous publications and/or other relevant supporting documentation.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Admission decisions are made based on faculty recommendations from the appropriate department or school. Admissions will generally be made only for fall semester, every other year; however, exceptions may be made in some cases. All interested students should contact the program director for their track for information about applying to this program. The college strongly encourages applications from minority and diverse populations. Race, national origin, and gender are not used in the evaluation of students for admission into graduate and professional programs.

Application Deadlines

Accounting	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Steven Sutton PhD
Professor
Program Director
sgsutton@ucf.edu
407-823-5857
BA1 - 437A

Business Administration PhD

Finance

TRACK DESCRIPTION

The Finance track in the Business Administration PhD program prepares students for careers in higher education and management within profit and nonprofit industries.

Success in the program is judged by the student's understanding of the issues and methodologies essential to the advancement of knowledge.

CURRICULUM

The Finance track of the Business Administration PhD program requires 84 credit hours beyond the bachelor's degree. Students must meet prerequisite requirements of 30 credit hours, and then complete 18 credit hours of finance core courses, 6 credit hours of a minor/support area, 12 credit hours of research methods/tools courses, 3 credit hours of electives, and 15 credit hours of dissertation.

Total Credit Hours Required:

84 Credit Hours Minimum beyond the Bachelor's Degree

Required courses for all students are indicated with an asterisk in the lists below. Specific courses from the foundation body of knowledge category are determined based on a student's background in consultation with the doctoral program coordinator. Required course work prior to beginning study includes successful completion of at least a two-course sequence of 6 credit hours of calculus and previous course work in economics, finance and statistics. The program requires 27 hours of formal course work, exclusive of independent study, as well as 15 credit hours of dissertation research.

Prerequisites—Foundation Body of Knowledge—30 Credit Hours

In the Finance track of the Business Administration PhD program, the foundation body of knowledge includes (a) the finance, accounting, statistics and economics common body of knowledge in a MBA degree or its equivalent and (b) graduate courses in financial management, investments, financial institutions and international finance. Alternatively, this requirement may be satisfied by courses deemed essential by the Finance track program coordinator in consultation with the PhD committee.

Required Courses—39 Credit Hours

Finance Core—18 Credit Hours

- FIN 7935 Finance Research Forum (up to 6 credit hours)
- FIN 7808 Introduction to the Theory of Finance (3 credit hours)
- FIN 7807 Corporate Finance Theory (3 credit hours)
- FIN 7816 Investment Theory (3 credit hours)
- FIN 7930 Seminar in Market Microstructure (3 credit hours)

- FIN 7811 Seminar in Financial Markets and Institutions (3 credit hours)
- Other courses as deemed acceptable by the doctoral program coordinator.

Minor/Support Area—6 Credit Hours

- ECO 6118 Microeconomic Theory I (3 credit hours)
- ECO 7116 Microeconomic Theory II (3 credit hours)

Research Methods/Tools—12 Credit Hours

- ECO 6403 Mathematical Economics (3 credit hours)
- ECO 6424 Econometrics I (3 credit hours)
- ECO 7426 Econometrics II (3 credit hours)
- ECO 6404 Games and Economic Behavior (3 credit hours)
- ECO 6453 Experimental Economics (3 credit hours)
- ECO 7117 Advanced Topics in Economic Theory (3 credit hours)
- ECO 7428 Time Series (3 credit hours)
- ACG 7157 Seminar in Archival Research in Accounting (3 credit hours)
- Other courses as deemed acceptable by the doctoral program coordinator.

Elective—3 Credit Hours

- Elective course approved by the doctoral program coordinator (3 credit hours)

Dissertation—15 Credit Hours

- FIN 7980 Dissertation (15 credit hours minimum)

Admissions to Candidacy

Students must complete a comprehensive candidacy examination that includes written and oral portions.

Students must defend a written dissertation proposal in an oral examination conducted by the student's advisory/dissertation committee. Students officially enter candidacy when the following have been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the comprehensive candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

The final defense of the dissertation will also require an oral examination.

Teaching Requirement

The requirements for the teaching component of the degree will be developed with the doctoral graduate program director based on the student's experience. Normally, this requirement will be satisfied through teaching a minimum of three credit hours of class instruction under the direct supervision of a faculty member. As appropriate, students will also be required to attend teaching development workshops and seminars.

INDEPENDENT LEARNING

The dissertation serves as the independent learning experience.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE or GMAT score taken within the last five years, three letters of recommendation, a goal statement, and a résumé; applicants from countries where English is not the official language or applicants with degrees from non-U.S. accredited institutions must achieve a minimum score of 233 on the TOEFL.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE or GMAT score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.
- Other: Previous publications and/or other relevant supporting documentation.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Admission decisions are made based on faculty recommendations from the appropriate department or school. Admissions will generally be made only for fall semester, every other year. All interested students should contact the program director for their track for information about applying to this program. The college strongly encourages applications from minority and diverse populations. Race, national origin, and gender are not used in the evaluation of students for admission into graduate and professional programs.

Application Deadlines

Finance	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Qinghai Wang PhD
Professor
Program Director
Qinghai.Wang@ucf.edu
407-823-6453
BA 410

Business Administration PhD

Management

TRACK DESCRIPTION

The objective of the Management track in the Business Administration PhD program is to prepare students for academic careers at major research universities.

Management Department faculty members help students understand current approaches to explaining and investigating management processes, and facilitate research projects aimed at contributing new insights to the field. Our students immerse themselves in the timely and timeless lessons offered by management scholars, as well as the methods used to discover and evaluate new ideas. This training also provides our students with the knowledge and critical perspective necessary to be master educators. The Management program is designed to produce well-rounded members of our profession who are well prepared to contribute to the research, education, and service missions of the Management discipline. The program requires a full-time commitment on the part of the students, allowing no time for secondary outside employment. Stipends, tuition waivers, health insurance options, described in the Graduate Student Handbook and on the College of Graduate Studies website, provide the financial resources that support this full-time status.

CURRICULUM

The Management track of the Business Administration PhD program requires 84 credit hours beyond the bachelor's degree. Students must meet prerequisite requirements of 30 credit hours, and then complete 18 credit hours of management core courses, 6 credit hours of a minor/support area, 12 credit hours of research methods/tools courses, 3 credit hours of electives, and 15 credit hours of dissertation.

Total Credit Hours Required:

84 Credit Hours Minimum beyond the Bachelor's Degree

The general expectation for the Management program follows. The program is tailored to the needs of the individual student and may require work that is not included in the following descriptions. The program requires 36 hours of formal course work exclusive of independent study as well as 15 credit hours of dissertation research (MAN 7980).

Prerequisites—Foundation Body of Knowledge—30 Credit Hours

The foundation body of knowledge includes the common body of knowledge in an MBA degree or its equivalent from an AACSB-accredited or comparable school. This requirement may be satisfied with a master's degree in Management or by courses deemed essential by the Management track program coordinator.

Required Courses—39 Credit Hours

Management Core—18 Credit Hours

- MAN 7275 Organizational Behavior (3 credit hours)
- MAN 7207 Organization Theory (3 c redit hours)
- MAN 7777 Corporate-level Strategic Management (3 credit hours)
- MAN 7900 Directed Readings in Management (up to 6 credit hours, repeatable by topic)
- MAN 7916 Seminar(s) in Management Research (up to 6 credit hours, repeatable by topic)

Minor/Support Area—6 Credit Hours

Students may select a minimum of six credit hours, typically within a unified area, approved by the student's adviser and the program coordinator. Each student's program of study is individually tailored to accommodate student interests, and often emphasizes additional training in research methodology necessary to produce high quality scholarly research.

Research Methods/Tools—12 Credit Hours

The research tools requirement is intended to ensure a thorough exposure to research methods. All candidates are expected to demonstrate knowledge of statistical methods as well as usage of statistical packages. This includes design, analysis, and interpretation of results. The student's advisory committee and the program coordinator will recommend and/or approve specific courses for each student. Representative courses include, but are not limited to the following:.

- PSY 6216C Research Methodology I (3 credit hours)
- PSY 7217C Advanced Research Methodology I (3 credit hours)
- PSY 7218C Advanced Research Methodology II (3 credit hours)
- PSY 7219C Advanced Research Methodology III (3 credit hours)
- GEB 7911 Structural Equation Modeling (3 credit hours)
- MAR 7626 Multivariate Analysis for Business (3 credit hours)
- EDF 7427 Psychometrics (3 credit hours)
- PAF 7804 Advanced Quantitative Methods (3 credit hours)
- STA 6237 Nonlinear Regression (3 credit hours)
- STA 6507 Nonparametric Statistics (3 credit hours)
- STA 6707 Multivariate Statistical Methods (3 credit hours)

Elective—3 Credit Hours

- Elective course approved by the faculty adviser (3 credit hours)

Dissertation—15 Credit Hours

- MAN 7980 Dissertation Research (15 credit hours minimum)

Admission to Candidacy

Students must complete a comprehensive candidacy examination that includes written and oral portions. This usually takes place near the end of coursework, in the late second year or early third year of the program.

Students must defend a written dissertation proposal in an oral examination conducted by the student's advisory/dissertation committee.

Students officially enter candidacy when the following have been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the comprehensive candidacy examination.

- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

The final defense of the dissertation will also require an oral examination.

Teaching Requirement

The requirements for the teaching component of the degree will be developed with the doctoral graduate program director based on the student's experience. Normally, this requirement will be satisfied through teaching a minimum of three credit hours of class instruction under the direct supervision of a faculty member. As appropriate, students will also be required to attend teaching development workshops and seminars.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning requirement.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE or GMAT score taken within the last five years, three letters of recommendation, a goal statement, and a résumé; applicants from countries where English is not the official lanugage or applicants with degrees from non-U.S. accredited institutions must achieve a minimum score of 233 on the TOEFL.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE or GMAT score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.
- Other: Previous publications and/or other relevant supporting documentation.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Admission decisions are made based on faculty recommendations from the appropriate department or school. Admissions will generally be made only for the fall semester of even years (e.g. Fall 2014, Fall 2016). In evaluating applicants, the committee considers all materials submitted. This committee, made up of our most research active faculty, the program director, and program coordinator, considers favorably: past academic writing/projects, collaborative work with distinguished faculty, prior career success, standardized scores on the GMAT or GRE, and letter of intent. Given that our program is designed as an "immersion" into academic inquiry, we look for applicants who demonstrate a level or intellectual curiosity that will drive their research efforts. GMAT/GRE scores should be competitive for full consideration. Generally, successful applicants score at or higher than the 50% ranking on both verbal and quantitative portions of the tests. Admissions is competitive, and standardized scores are often considerably higher than this. Consideration of candidates generally begins in mid-January and continues unit we have the number of accepted offers we intend to accept. Generally, a cohort consist of 4-6 students. Our program supports students with interest in the primary areas of Strategic Management, Organizational Behavior and Entrepreneurship. Letters of intent should reflect the particular area of interest is pursuing. The college strongly encourages applications from minority and diverse populations. Race, national origin, and gender are not used in the evaluation of students for admission into graduate and professional programs.

Application Deadlines

Management	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Shannon Taylor PhD
Associate Professor
Program Director
sgtaylor@ucf.edu
407-823-2916
BA 338

Business Administration PhD

Marketing

TRACK DESCRIPTION

The Marketing track in the Business Administration PhD program prepares students for careers in higher education.

The objective of the Marketing track in the Business Administration PhD program is to prepare students for academic careers in higher education and management careers within profit and nonprofit organizations. Success in the program is judged by the student's understanding of the issues and methodologies essential to the advancement of knowledge.

CURRICULUM

The Marketing track of the Business Administration PhD program requires 84 credit hours beyond the bachelor's degree. Students must meet prerequisite requirements of 30 credit hours, and then complete 18 credit hours of marketing core courses, 9 credit hours of a minor/support area, 12 credit hours of research methods/tools courses, and 15 credit hours of dissertation.

Total Credit Hours Required:

84 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites—Foundation Body of Knowledge—30 Credit Hours

In the Marketing track of the Business Administration PhD program, this requirement may be satisfied with a master's degree in marketing, business administration or an equivalent degree from an AACSB-accredited school. Alternatively, this requirement may be satisfied by courses deemed essential by the department's PhD coordinator in consultation with the PhD committee.

Required Courses—39 Credit Hours

Marketing Core—18 Credit Hours

- MAR 7575 Seminar in Consumer Behavior (3 credit hours)
- MAR 7638 Seminar in Marketing Theory, Scaling, and Measurement (3 credit hours)
- MAR 7666 Seminar in Marketing Models I (1.5 credit hours)
- MAR 7667 Seminar in Marketing Models II (1.5 credit hours)
- MAR 7807 Seminar in Marketing Strategy I (1.5 credit hours)
- MAR 7808 Seminar in Marketing Strategy II (1.5 credit hours)
- MAR 7919 Special Topics: Doctoral Research Projects in Summer I and Spring II (6 credit hours)

Minor/Support Area—9 Credit Hours

A minimum of nine hours of course work is required in a minor/support area. The course work should be from a unified area and will be planned with the advice and consent of the department's PhD coordinator in consultation with the PhD committee.

Research Methods/Tools—12 Credit Hours

The department's doctoral advisory committee and the PhD Coordinator will determine the additional research tools courses.

- MAR 7626 Multivariate Analysis for Business Research (3 credit hours)
- Additional courses approved by the PhD coordinator in consultation with the PhD committee(9 credit hours)

Dissertation—15 Credit Hours

- MAR 7980 Dissertation (15 credit hours minimum)

Admission to Candidacy

Students must successfully pass a readiness exam in the first summer. In the second summer of the program after course work has been completed students must pass a comprehensive candidacy examination that includes written and oral portions.

Students must defend a written dissertation proposal in an oral examination conducted by the student's advisory/dissertation committee.

Students officially enter candidacy when the following have been achieved:

- Successful completion of all course work (excluding dissertation hours).
- Successful completion of the readiness exam administered in the first summer.
- Successful completion of the comprehensive candidacy exam administered in the second summer.
- Successful defense of the written dissertation proposal.
- Formation of the dissertation advisory committee, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

The final defense of the dissertation will require an oral examination.

Teaching Requirement

The requirements for the teaching component of the doctoral degree will be developed by the Department Chair in consultation with the PhD coordinator. Normally, this requirement will be satisfied through teaching a minimum of three credit hours of class instruction under the direct supervision of the Department Chair or his/her designee. As appropriate, students will also be required to attend teaching development seminars and workshops.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning experience.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE or GMAT score taken within the last five years, three letters of recommendation, a goal statement, and a résumé; applicants from countries where English is not the official language or students with degrees from non-U.S. accredited institutions must achieve a minimum score of 233 on the TOEFL.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE or GMAT score taken within the last five years.
- Three letters of recommendation.

- Research Statement.
- Résumé.
- Other: Previous publications and/or other relevant supporting documentation.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Admission decisions are made based on faculty recommendations from the appropriate department or school. Admissions will generally be made only for fall semester, every other year. All interested students should contact the program director for their track for information about applying to this program. The college strongly encourages applications from minority and diverse populations. Race, national origin, and gender are not used in the evaluation of students for admission into graduate and professional programs.

Application Deadlines

Marketing	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Pradeep Bhardwaj PhD
Associate Professor
Program Director
Pradeep.Bhardwaj@ucf.edu
407-823-5053
BA2 308G

Chemistry PhD

PROGRAM DESCRIPTION

The Chemistry PhD program focuses on Materials Chemistry, Environmental Chemistry, Forensic Science and Biochemistry. The training prepares future scientists and educators for research within contemporary fields to accommodate changing and growing industry demands.

The PhD program in Chemistry provides a doctoral education in three technical focal areas: Materials Chemistry, Environmental Chemistry, Forensic Science and Biochemistry, drawing upon the strengths of the Department of Chemistry and other units, such as the College of Optics and Photonics and Advanced Materials Processing and Analysis Center. These areas meet the ever-pressing demand for the development of new materials and the increasing urgency of addressing crucial environmental and security problems. The curriculum has been formulated in collaboration with industrial scientists and represents a response to current and projected competencies needed by the industry. The purpose of the program is to develop scientists and educators capable of conducting research to solve important problems in contemporary fields of the chemical sciences while preparing a highly skilled work force to ensure the technological/economic health and competitiveness in central Florida.

CURRICULUM

The Chemistry PhD program requires 72 credit hours beyond the bachelor's degree with a minimum 18 credit hours of electives in the chosen sub-discipline, an original research project and dissertation presentation. A maximum of 24 credit hours may be transferred for students that have completed an approved MS degree program. At least 27 hours of formal course work, exclusive of independent study, are required in order to fulfill degree requirements. This includes four core courses and four electives, three of which must be taken from Chemistry. Six credit hours of directed research are also required; additional courses may be specified by the student's research adviser.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

One of the primary means of education and training in the PhD program is achieved through successful completion of an original research project, close mentorship by their research adviser and the presentation and defense of the PhD dissertation. This intense research experience provides the education and training necessary for the student to substantiate his/her expertise and develop the skills necessary to become an independent professional.

By the second semester, students will choose a dissertation adviser and establish a program of study. Students will take a seminar course a minimum of seven times. Students are required to complete a seminar presentation to the department during the sixth semester of seminar, prior to presenting candidacy. A final seminar credit hour will be taken in preparation for the dissertation defense. During this semester, the student will present a seminar to the department on their dissertation research. The research adviser and graduate program director will establish an advisory committee for each student. Students must maintain a 3.0 GPA or higher.

Required Courses—19 Credit Hours

Core—12 Credit Hours

Students must take four of the following courses.

- CHM 6710 Applied Analytical Chemistry (3 credit hours)
- CHM 6440 Kinetics and Catalysis (3 credit hours)
- CHS 6251 Applied Organic Synthesis (3 credit hours)
- CHS 6240 Chemical Thermodynamics (3 credit hours)
- BCH 6740 Applied Biochemistry (3 credit hours)

If a student successfully completes all five core courses, one course will count toward fulfilling the electives requirement.

Seminar—7 Credit Hours

- CHM 6936 Seminar (1 credit hour, to be taken six times before presenting candidacy)

Elective Courses—18-38 Credit Hours in Chosen Concentration

Directed Research—6 Credit Hours

- CHM 6918 Directed Research (variable credit hours)

Elective Courses—12 Credit Hours

Selected from courses list below or chosen by adviser

Additional Courses—0-20 Credit Hours

Students who enter the program with a master's degree need to take four elective courses (12 credit hours) and 6 credit hours of directed research. They may choose four courses from the departmental offerings or three courses from the departmental offerings and one from outside of the department. Directed research will always be within the department. Students who enter the program without a master's degree will be required to take 20 additional hours for a total of 38 credit hours of a combination of elective and research courses.

A program of study requires 27 hours of total formal course work exclusive of independent study. Students and advisers need to be careful about how elective courses are selected so that at least 12 credit hours of electives must be formal course work, exclusive of independent study. Doctoral research, dissertation research, independent study and directed research may also be used to satisfy additional hours in the concentration.

Materials Chemistry Concentration

Choose from the following courses (one may be from outside the department) in addition to 6 hours of directed research.

- CHM 5225 Advanced Organic Chemistry (3 credit hours)
- CHM 5580 Advanced Physical Chemistry (3 credit hours)
- CHS 6260 Chemical Unit Operations and Separations (3 credit hours)
- CHM 6711 Chemistry of Materials (3 credit hours)
- CHM 6620 Solid State Inorganic Chemistry (3 credit hours)
- CHM 5450 Polymer Chemistry (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHM 5715C Optical Materials Processing and Characterization Techniques (3 credit hours)
- CHM 6449 Photochemistry (3 credit hours)
- CHM 5305 Applied Biological Chemistry (3 credit hours)
- CHM 6938 Special Topics (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 6134 Advanced Instrumental Analysis (3 credit hours)
- CHM 7938 Frontiers in Chemistry (three semesters, 1 credit hour each semester)
- CHM 7919 Directed Research in Materials Chemistry (6 credit hours)

Courses from outside the Chemistry Department.

- OSE 5203 Fundamentals of Applied Optics (3 credit hours)
- OSE 5313 Materials for Optical Systems (3 credit hours)
- OSE 5414 Fundamentals of Optoelectronic Devices (3 credit hours)
- EMA 5504 Modern Characterization of Materials (3 credit hours)
- EMA 6518 Transmission Electron Microscopy (3 credit hours)
- EMA 5108 Surface Science (3 credit hours)
- EMA 6129 Solidification and Microstructure Evolution (3 credit hours)

- EMA 6130 Phase Transformations in Metals and Alloys (3 credit hours)
- EMA 6136 Diffusion in Solids (3 credit hours)
- EMA 6516 X-Ray Diffraction and Crystallography (3 credit hours)
- IDS 7691 Structure-Function-Relationships of Biomolecules I (5 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- BSC 5408L Advanced Biology Laboratory Techniques (3 credit hours)

Environmental Chemistry Concentration

Choose from the following courses (one may be from outside the department) in addition to 6 hours of directed research.

- CHS 6260 Chemical Unit Operations and Separations (3 credit hours)
- CHS 6613 Current Topics in Environmental Chemistry (3 credit hours)
- CHS 6508 Advanced Mass Spectrometry for Forensic Science (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 5580 Advanced Physical Chemistry (3 credit hours)
- CHM 6134 Advanced Instrumental Analysis (3 credit hours)
- CHM 6449 Photochemistry (3 credit hours)
- CHM 6938 Special Topics (3 credit hours)
- CHM 7938 Frontiers in Chemistry (three semesters, 1 credit hour each semester)
- CHM 7919 Directed Research in Environmental Chemistry (6 credit hours)

Courses from outside the Chemistry Department.

- ENV 5410 Drinking Water Treatment (3 credit hours)
- ENV 6046 Membrane Mass Transfer (3 credit hours)
- ENV 6055 Fate and Transport of Subsurface Contaminants (3 credit hours)
- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling (3 credit hours)
- ENV 6126 Design of Air Pollution Controls (3 credit hours)
- ENV 6336 Site Remediation and Hazardous Waste Treatment (3 credit hours)
- ENV 6519 Aquatic Chemical Processes (3 credit hours)
- ENV 6558 Industrial Waste Treatment (3 credit hours)

Forensic Science Concentration

Choose from the following courses in addition to 6 hours of directed research.

- CHS 6545 Forensic Analysis of Explosives (3 credit hours)
- CHS 6546 Forensic Analysis of Ignitable Liquids (3 credit hours)
- CHS 6508 Advanced Mass Spectrometry for Forensic Science (3 credit hours)
- CHM 6134 Advanced Instrumental Analysis (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHM 6938 Special Topics (3 credit hours)
- CHS 6535 Forensic Molecular Biology (2 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6536 Population Genetics and Genetic Data Analysis (3 credit hours)
- CHM 7938 Frontiers in Chemistry (three semesters, 1 credit hour each semester)
- CHM 7919 Directed Research in Forensic Science (6 credit hours)

Biochemistry Concentration

Choose from the following courses (one may be from outside the department) in addition to 6 hours of directed research.

- CHM 5305 Applied Biological Chemistry (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 5225 Advanced Organic Chemistry (3 credit hours)
- CHM 6278 The Organic Chemistry of Drug Design (3 credit hours)
- CHM 5580 Advanced Physical Chemistry (3 credit hours)

- CHM 6449 Photochemistry (3 credit hours)
- CHS 6535 Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials Lab (3 credit hours)
- CHS 6536 Forensic Analysis of DNA Data (3 credit hours)
- CHM 7938 Frontiers in Chemistry (three semesters, 1 credit hour each semester)
- CHM 7919 Directed Research in Biochemistry (3 credit hours)

Courses from outside the Chemistry Department.

- IDS 7691 Structure-Function-Relationships of Biomolecules I (5 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- BSC 6407C Laboratory methods in Molecular Biology (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- EMA 6516 X-Ray Diffraction and Crystallography (3 credit hours)
- EMA 6518 Transmission Electron Microscopy (3 credit hours)

Dissertation—15 Credit Hours Minimum

- CHM 7980 Doctoral Dissertation (15 credit hours)

Within three months before defending the dissertation, the student will present a dissertation research seminar to the Department of Chemistry, registering for one credit hour of seminar.

Qualifying Examinations

Students will be expected to satisfy qualifying (proficiency) requirements (analytical chemistry, biochemistry, inorganic chemistry, organic chemistry and physical chemistry) during the first year by taking exams in four of these five areas. Additional course work may be required if one or more of the qualifying exams is not satisfied. These exams may be waived if the entering student possesses an MS degree in the Chemical Sciences. Satisfaction of this requirement will help ensure that all students are adequately prepared for the core courses. If a student does not satisfy the proficiency exam requirements within the first year, the student may be subject to dismissal from the program.

Candidacy Examination

By the end of the fifth semester (excluding summers), students must pass the PhD candidacy oral examination. The candidacy examination consists of writing and orally defending an original research proposal to the student's program faculty advisory committee as well as a presentation of their preliminary dissertation research accomplishments and plans. The research proposal will focus on a topic not directly related to the student's dissertation research and must be approved by the adviser and advisory committee. Failure to pass the PhD candidacy exam will result in dismissal from the program.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all required and formal elective course work, except for dissertation hours.

- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Dissertation Defense

The final requirement for the PhD degree is completion of a satisfactory written dissertation of the student's research, along with successful presentation and defense of the dissertation to the advisory committee, including one doctorate-holding non-program faculty member.

Equipment Fee

Full-time students in the Chemistry PhD program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 per semester.

INDEPENDENT LEARNING

The grounding in scientific research methodology provided by the dissertation requirement is a central focus of the proposed program. Students will conduct research either on site or at the professional laboratories where they work. In either case, a member of the UCF Chemistry Department graduate faculty will act as research adviser and approve the research topic. This research culminates in the writing and presentation of the dissertation. The student will present his/her dissertation for examination by a committee consisting of a minimum of five members including the research adviser. One of the committee members will be from outside the Chemistry department. A majority of the program committee members will hold tenure-earning faculty appointments in the Chemistry Department. The committee has to be approved by the Graduate Coordinator of the Chemistry program and the department Chair. The dissertation must be judged worthy of publication by the dissertation committee and may not be submitted for examination until so deemed. For students performing their dissertation research off campus, the dissertation adviser will visit the student's laboratory, where their research is to be performed, before the research begins and on a regular basis until the work is complete.

APPLICATION REQUIREMENTS

Applicants should possess a BS in Chemical Sciences or a closely related field. In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a résumé, written statement of purpose, and three letters of recommendation.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in the Chemical Sciences or a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendations.
- A statement of purpose.
- Résumé.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Chemistry PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Andres Campiglia PhD
Associate Professor
Program Director
acampigl@ucf.edu
407-823-5728
Chemistry 117

Civil Engineering PhD

PROGRAM DESCRIPTION

The Civil Engineering PhD program includes courses and research in structural analysis and design, geotechnical engineering and foundations, transportation planning and operations, traffic engineering, construction engineering, and water resources engineering. This will prepare students for roles in consulting firms, construction and construction-related industries and academic institutions as well as in city, county, state and federal government agencies.

The PhD in Civil Engineering reflects the very broad nature of the field, which encompasses the design, construction and enhancement of the infrastructure of society. The educational program includes course work in structural analysis and design, geotechnical engineering and foundations, transportation planning and operations, traffic engineering and water resources engineering.

Faculty research interests include geotechnical studies of subsurface conditions, soil testing "superpave" mix design, intelligent transportation systems, traffic safety, structural dynamics, nonlinear structural analysis and software development, reinforced concrete, construction engineering, hydraulic modeling, coastal ocean modeling, stormwater management and watershed management.

CURRICULUM

The PhD in Civil Engineering is a research-oriented degree that requires course work combined with intensive research. The program requires a minimum of 72 credit hours beyond the bachelor's degree. Thirty of the 72 credit hours can be met with either a nonthesis or thesis MS in Civil Engineering. This leaves 42 credit hours, of which 18 credit hours must be Dissertation Research and a minimum of 15 credit hours must be formal course work. A maximum of 9 credit hours of Doctoral Research hours can be used in the doctoral program, which could be replaced by additional formal course work.

For students not having an MS degree who directly enter the PhD program (BS to PhD), there will be a minimum of 45 hours formal course work (i.e., 30 credit hours identical to the course work for a nonthesis MS in any of the Civil Engineering focus areas plus a minimum of 15 credit hours course work past the MS). In addition, these students can enroll for Doctoral Research credit hours during or after their first semester in the program. The 27 credit hours required in addition to the 45 credit hours course work will be 18 credit hours in Dissertation Research, and a maximum of 9 credit hours in Doctoral Research. Up to 9 credit hours of Doctoral Research can be replaced by additional formal course work subject to the approval of the PhD adviser and the advisory committee.

For both MS to PhD and BS to PhD students, the program of study must be developed with an advisory committee and meet with departmental approval at the beginning of the PhD program, at which time transfer credit will be evaluated on a course-by-course basis.

Total Credit Hours Required:

42 Credit Hours Minimum beyond the Master's Degree

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Elective Courses—54 Credit Hours Minimum

- To be approved by a faculty adviser and the graduate coordinator.
- At least 27 credit hours of formal course work is required, exclusive of research and independent study. For students entering the program with a completed master's degree, at least 15 of the 27 credit hours (exclusive of independent study and research) must be taken at UCF after the master's program from approved formal courses. For students entering the program without a master's degree in Civil Engineering or a closely related discipline, at least 45 credit hours of formal course work are required.
- Doctoral Research (XXX 7919) – 9 credit hours maximum (more than 9 research credit hours can be taken, but only a maximum of 9 credit hours will be counted toward the program of study).
- Independent Study (XXX 6908) – 3 credit hours maximum
- No more than a total of 12 credit hours of doctoral research plus independent study will be included in a program of study.
- Directed Research (XXX 6918) is not permitted in a PhD program of study.

Students can choose among the following courses with the consent of the academic adviser. Students that have no MS degree should complete the core courses for the MS degree in the respective focus area.

These focus areas are: Structural Engineering, Geotechnical Engineering, Transportation Systems Engineering, Water Resources Engineering and Construction Engineering. For each one of these areas there is a suggested list of core courses.

Suggested elective courses include:

Geotechnical Engineering

- CEG 6065 Soil Dynamics (3 credit hours)
- CEG 6115 Foundation Engineering (3 credit hours)
- CEG 6317 Advanced Geotechnical Engineering (3 credit hours)
- TTE 5835 Pavement Design (3 credit hours)

Structural Engineering

- CES 5144 Matrix Methods for Structural Analysis (3 credit hours)
- CES 5325 Bridge Engineering (3 credit hours)
- CES 5606 Advanced Steel Structures (3 credit hours)
- CES 5706 Advanced Reinforced Concrete (3 credit hours)
- CES 5821 Masonry and Timber Design (3 credit hours)
- CES 6010 Structural Reliability (3 credit hours)
- CES 6116 Finite Element Structural Analysis (3 credit hours)
- CES 6209 Dynamics of Structures (3 credit hours)
- CES 6220 Wind and Earthquake Engineering (3 credit hours)
- CES 6230 Advanced Structural Mechanics (3 credit hours)
- CES 6527 Nonlinear Structural Analysis (3 credit hours)
- CES 6715 Prestressed Concrete Structures (3 credit hours)
- CES 6840 Composite Steel Concrete Structures (3 credit hours)

Transportation Systems Engineering

- TTE 5204 Traffic Engineering (3 credit hours)
- TTE 6205 Highway Capacity (3 credit hours)
- TTE 5805 Geometric Design of Transportation Systems (3 credit hours)
- TTE 5835 Pavement Design (3 credit hours)
- TTE 6256 Traffic Operations (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)
- TTE 6315 Traffic Safety Analysis (3 credit hours)
- TTE 6526 Planning and Design of Airports (3 credit hours)
- CGN 6655 Regional Planning, Design and Development (3 credit hours)
- STA 5206 Statistical Analysis or ESI 5219 Engineering Statistics (3 credit hours)

Water Resources Engineering

- CWR 5125 Groundwater Hydrology(3 credit hours)
- CWR 5205 Hydraulic Engineering(3 credit hours)
- CWR 5515 Numerical Methods in Civil and Environmental Engineering (3 credit hours)
- CWR 5545 Water Resources Engineering (3 credit hours)
- CWR 5634 Water Resources in a Changing Environment (3 credit hours)
- CWR 6102 Advanced Hydrology (3 credit hours)
- CWR 6126 Groundwater Modeling (3 credit hours)
- CWR 6235 Open Channel Hydraulics (3 credit hours)
- CWR 6236 River Engineering and Sediment Transport (3 credit hours)
- CWR 6535 Modeling Water Resources Systems (3 credit hours)
- CWR 6539 Finite Elements in Surface Water Modeling (3 credit hours)

Construction Engineering and Management

- CCE 5205 Decision Support for Infrastructure Projects (3 credit hours)
- CCE 5006 Infrastructure Systems Management (3 credit hours)
- CCE 5220 Green Design and Construction (3 credit hours)
- CCE 6036 Advanced Construction Planning and Control (3 credit hours)*
- CCE 6211 Design and Monitoring of Construction Processes (3 credit hours)*
- CCE 6045 Cost Analysis of Sustainable Infrastructure Systems (3 credit hours)

Students are also allowed to take courses from other specialization areas. Students can take courses from Civil Engineering or Environmental Engineering and other departments, including but not limited to Statistics, Mathematics, and Industrial, Mechanical, and/or Electrical Engineering, and Computer Science, with the consent of the academic adviser.

Dissertation—18 Credit Hours

- XXX 7980 (where XXX can be CGN, CEG, CES, CWR, or TTE; 18 credit hours)

Examinations

The student must pass three examinations.

Qualifying Examination

The first is the PhD Qualifying Examination in one of the departmental disciplines. This written examination must be taken within the first year of admission into the PhD program. It may be attempted no more than twice.

Candidacy Examination

The student must pass a Candidacy Examination, normally taken near the end of the course work. It consists of a written and oral presentation of a research proposal, and may include additional written or oral questioning by the committee. A copy of the written examination will be kept as part of the student’s official record.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours. Evidence that items have been completed must be received by the College of Graduate Studies on the Friday before the first day of classes for those who wish to enroll in dissertation hours in that semester:

- Completion of all but 6 hours or less of course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Dissertation Defense Examination

The Dissertation Defense Examination is an oral examination taken as defense of the written dissertation.

The College of Engineering and Computer Science requires that all dissertation defense announcements be approved by the student's adviser and posted on the college's website and on the College of Graduate Studies Events Calendar at least two weeks before the defense date.

Equipment Fee

Students in the Civil Engineering PhD program pay a $16 equipment fee each semester that they are enrolled. Part-time students pay $8 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of the student's candidacy and dissertation defense examinations.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to meeting general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master’s and bachelor’s degree in Civil Engineering or a closely related field, résumé, three letters of recommendation, and a statement of educational, research, and professional career objectives.

The College of Engineering and Computer Science strongly encourages prospective applicants to submit a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying the application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Master's or bachelor's degree in Civil Engineering or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting applicants into their research program.

Application Deadlines

Civil Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Omer Tatari PhD, LEED, AP
Associate Professor
Program Director
tatari@ucf.edu
407-823-6558
Engineering II, 301-K

Clinical Psychology PhD

PROGRAM DESCRIPTION

The Psychology Department offers a Psychology PhD in Clinical Psychology, educating students in both the science and the practice of clinical psychology.

The Clinical Psychology track in the Psychology PhD Program emphasizes the scientist-practitioner model of training as promulgated by the American Psychological Association (APA). The doctoral program in Clinical Psychology is accredited by the American Psychological Association.

The advent of managed care has resulted in significant changes in the mental health care delivery system and the role of clinical psychologists in that system. Psychologists are utilized less for the direct delivery of psychological services and increasingly for performing professional duties such as administration, development of programmatic treatments, program evaluation, supervision, and research. Thus, there is a need for training to reflect the professional roles of the Clinical Psychologist in the twenty-first century. The Clinical Psychology doctorate is designed to respond to these changing roles.

Consistent with the mission of a major metropolitan university, the Clinical Psychology PhD Program at UCF takes advantage of, and builds upon, a multitude of community partnerships. One specific example of programmatic efforts to develop partnerships with community agencies is our extensive partnership with public and private health service delivery resources in the Central Florida area who participate as externship training sites.

APPLICATION REQUIREMENTS

The Clinical Psychology track in the Psychology PhD Program is designed to be a full-time program, with some summer enrollment expected. There are a total of 84 semester hours of courses, practica, and research requirements.

Total Credit Hours Required:

84 Credit Hours Minimum beyond the Bachelor's Degree

54 Credit Hours Minimum beyond the Master's Degree

In addition to the 84 semester hours, graduate students engage in a variety of clinical training experiences that occur in health and mental health facilities throughout greater Orlando. Courses are presented in sequential fashion and students entering with a Bachelor's degree must earn a Master's degree in route to the PhD. Students who enter with a Master's degree must complete at least 54 semester hours at UCF. A Dissertation that represents a significant scientific contribution to the discipline is required. Successful completion of the Qualifying and Comprehensive Examination is required to be admitted into candidacy and prior to initiation of Dissertation research.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Applicants must have at least a Bachelor's degree with a major in Psychology or a Bachelor's degree and completion of undergraduate or graduate courses in statistics/research methods and six additional upper division courses in core content areas of Psychology (i.e., personality theory, abnormal psychology, learning, physiological psychology, clinical psychology, developmental psychology, social psychology). Applicants who enter with a Master's degree may be eligible to waive or transfer up to 30 credit hours for credits earned from a completed Master's degree from an accredited institution (as long as this number does not exceed 50% of the program's requirements). In these cases, each applicant's situation will be reviewed individually based on program standards and requirements.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

One official transcript (in a sealed envelope) from each college/university attended.

Official, competitive GRE scores taken within the last five years (use UCF Institution Code: 5233)

Evidence of successful completion of undergraduate course work in statistics and general areas of Psychology.

Curriculum Vitae.

Three letters of recommendation, with at least two furnished by college or university professors who are acquainted with the applicant.

A clear statement concerning the type of research you wish to pursue as a graduate student, and the Clinical Faculty member you believe would be best suited to serve as your major professor and mentor.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Due to the competitive nature of the application process, strong candidates are likely to meet criteria that are more stringent than those listed here. Strong candidates are also likely to have both research and clinical experience. A department admissions committee reviews the applicants' credentials and may invite a group of candidates for an interview. Final selection is based on both submitted credentials and the interview.

In 2016, the Doctoral Program in Clinical Psychology received 126 applications for admission, but only six students entered the Ph.D. program. Accepted students had, on average, between 1.5 and 2 years prior research experience and were well matched with the Clinical Faculty's research and training interests.

Previous graduate work will be considered on a case-by-case basis (including acceptance of a previously completed Master's Thesis). Graduate students may be eligible to waive up to 30 credits earned from a completed Master's degree from an accredited institution. Each graduate student's situation is considered individually by the Clinical Faculty. Graduate students should submit a request to the Director of Clinical Training and provide a course catalog description, course syllabus, and other relevant information to enable the Clinical Faculty to make a determination of equivalence with a course in the PhD curriculum. The waived hours must come from graduate-level course work (e.g., numbered 5000 and above in the Florida SUS approach). No courses with grades less than "B" will be considered for waiver. Graduate students who did not complete an empirical Master's Thesis as part of their required training at another accredited institution must complete an empirical Master's Thesis prior to forming a Dissertation committee. Graduate students who completed an empirical Master's Thesis at their former accredited institution may submit the Master's Thesis to the Director of Clinical Training, who will assign a Clinical Faculty committee to review the Master's Thesis and determine whether it meets the PhD program's standards for excellence. Graduate students must propose and successfully defend an approved Master's Thesis under the direction of Clinical Faculty if the Master's Thesis that they completed at a previous institution fails to meet the PhD program's standards.

Application Deadlines

Clinical Psychology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 1	Dec 1		
International Applicants	Dec 1			
International Transfer Applicants	Dec 1	Dec 1		

CONTACT INFO

Bernard Jensen PhD
Associate Professor
Program Director
bernard.jensen@ucf.edu
407-708-2836

Computer Engineering PhD

PROGRAM DESCRIPTION

The Computer Engineering PhD prepares students for careers in research or academia with potential focus in computer systems and VLSI design, software engineering and algorithms, intelligent systems and Machine Learning, computer networks and computer security, as well as simulation systems.

The doctoral program in Computer Engineering is primarily intended for students with a master's degree in Computer Engineering or a closely related discipline wishing to pursue a career in research or academia. Specializations include computer systems and VLSI design, software engineering and algorithms, intelligent systems and Machine Learning, computer networks and computer security and simulation systems.

Research interests of the Computer Engineering faculty include computer architecture, software engineering, artificial intelligence, expert systems, modeling and simulation, computer networking and ubiquitous computing, computer security, and very large-scale integration (VLSI) systems.

The specific research that each one of the EECS faculty conduct can be found at the School of EECS website (www.eecs.ucf.edu).

CURRICULUM

The Computer Engineering PhD degree requires a minimum of 72 credit hours beyond the bachelor's degree. Of these 72 hours, a minimum of 36 credit hours must be formal coursework, exclusive of independent study coursework. A minimum of 15 credit hours with up to a maximum of 24 credit hours of dissertation hours can be credited toward the degree. No more than 12 credit hours of Independent Study are allowed. The remaining hours can be a combination of formal coursework and/or pre-candidacy doctoral research. Details about this program can be found in the Computer Engineering PhD Handbook.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Formal coursework required is 36 credit hours, exclusive of independent study and research. A minimum of 15 credit hours of dissertation are required. All other credit hours will be determined with a faculty adviser. Students admitted with an earned master's degree may request to have up to 30 of those credit hours counted toward their doctoral program. The student's doctoral adviser in conjunction with the graduate office will determine the precise number of hours to be counted subject to Graduate Studies regulations.

The Program of Study (POS) form must be approved by an adviser in the selected specialization area no later than the end of the second semester after admission. The program of study must meet all the university requirements specified in the graduate catalog.

Articulation Courses

Undergraduate articulation courses are required to be completed prior to admission for students who do not hold a Bachelor of Science degree in Computer Engineering. In particular, the articulation courses specified below, plus all of the prerequisite string which any of them require, must be completed prior to admission. Grades of "B" or higher must be obtained in each articulation course specified below. Articulation courses are not eligible for inclusion on a graduate Program of Study.

- EEE 3342C Digital Systems
- EEL 3801 Computer Organization
- COP 3502 Computer Science I
- COP 3503 Computer Science II

In addition, choose one of the following:

- COP 4331 Processes for Object-Oriented Development
- EEL 4768C Computer Architecture
- EEL 4781 Computer Communications Networks

Required Courses—36 Credit Hours

- Suggested courses listed below.

Elective Courses—12-21 Credit Hours

- May include formal coursework, directed research hours, doctoral research hours, dissertation research, and no more than 12 credit hours of Independent Study.
- Suggested courses listed below.

Suggested Courses for Doctoral Program

The Computer Engineering Program supports a number of specialization areas. These specialization areas are (in alphabetical order): Computer Networks and Computer Security (CNCS), Computer Systems and Reconfigurable Hardware (CS/RH), Intelligent Systems and Machine Learning (ISML), and Software Systems and Algorithms (SSA). Please contact your graduate program assistant at 407-823-0378 for a list of faculty within each specialization area.

For each one of these areas there is a suggested list of courses stated below. Students are also allowed to take courses from other specialization areas, but the majority of their courses should be chosen from courses in their specialization area.

Computer Networks and Computer Security (CNCS)

- CDA 5106 Advanced Computer Architecture (3 credit hours)
- CDA 5110 Parallel Processing (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- CDA 6938 ST: Research in Computer and Network Security (3 credit hours)
- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CNT 5008 Computer Communication Network Architecture (3 credit hours)
- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection, and Forensics Analysis (3 credit hours)
- CNT 6519 Wireless Security and Forensics (3 credit hours)
- CNT 6707 Computer Network Design and Distributed Processing (3 credit hours)
- COP 5537 Network Optimization (3 credit hours)
- COP 5611 Operating Systems (3 credit hours)
- CAP 6133 Advanced Topics in Computer Security and Forensics (3 credit hours)
- CAP 6135 Malware and Software Vulnerability Analysis (3 credit hours)
- COP 6525 Distributive Processing of Digital Evidence (3 credit hours)
- COT 5405 Theory and Analysis of Algorithms (3 credit hours)
- EEE 5542 Random Processes I (3 credit hours)
- EEL 5780 Wireless Networks (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6788 Advanced Topics in Wireless Networks (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- EEL 6897 Software Development for Real-Time Engineering Systems (3 credit hours)

Computer Systems and Reconfigurable Hardware (CS/RH)

- CDA 5106 Advanced Computer Architecture I (3 credit hours)
- CDA 5110 Parallel Architecture and Algorithms (3 credit hours)
- CDA 6107 Parallel Computer Architecture (3 credit hours)
- CDA 6938 Multi-Core Architecture and Programming (3 credit hours)
- COP 5537 Network Optimization (3 credit hours)
- COT 6415 Complexity of Parallel Computation (3 credit hours)
- EEE 5390C Full Custom-VLSI Design (3 credit hours)
- EEE 6327 Design of Video Coding Systems (3 credit hours)
- EEL 5704 Computer Aided Logical Design (3 credit hours)
- EEL 5722C Field Programmable Gate Array (FPGA) Design (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- ECM 6308 Current Topics in Parallel Processing (3 credit hours)

Intelligent Systems and Machine Learning (ISML)

- CAP 5055 AI for Game Programming (3 credit hours)
- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 5610 Machine Learning (3 credit hours)
- CAP 5636 Advanced Artificial Intelligence (3 credit hours)
- CAP 6545 Machine Learning Methods for Bioinformatics (3 credit hours)
- CAP 6616 Neuro-Evolution and Generative Developmental Systems (3 credit hours)
- CAP 6640 Computer Understanding of Natural Language (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents and Humans (3 credit hours)
- CAP 6675 Complex Adaptive Systems (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6769 Parallel Knowledge Processing Systems (3 credit hours)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 6875 Autonomous Agents (3 credit hours)
- EEL 6876 Current Topics in Artificial Intelligence (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)

Software Systems and Algorithms (SSA)

- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection, and Forensics Analysis (3 credit hours)
- CAP 5510 Bioinformatics (3 credit hours)
- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)
- CAP 6545 Machine Learning Methods for Bioinformatics (3 credit hours)
- CEN 5016 Software Engineering (3 credit hours)
- CEN 6075 Formal Specification of Software Systems (3 credit hours)
- COP 5021 Program Analysis (3 credit hours)
- COP 5711 Parallel and Distributed Database Systems (3 credit hours)
- COP 6730 Transaction Processing (3 credit hours)
- COP 6731 Advanced Database Systems (3 credit hours)
- COT 5310 Formal Languages and Automata Theory (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- COT 6410 Computational Complexity (3 credits)
- COT 6417 Algorithms on Strings and Sequences (3 credit hours)
- COT 6600 Quantum Computing (3 credit hours)
- COT 6602 Introduction to Quantum Information Theory (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)

Dissertation—15-24 Credit Hours

- XXX 7980 Dissertation Research (15 credit hours minimum).
- The program will only allow students to complete up to 24 hours of dissertation coursework in XXX 7980.

The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's adviser and posted on the college's website at least two weeks before the defense date.

Qualifying Review

The Qualifying Review relies on annual appraisals of the student's progress conducted by the student's research/academic adviser and advisory committee, once formed. The student's appraisal template that the adviser completes will assess the student's academic performance (course performance) and research performance. On an annual basis, and based on the completed PhD Student Annual Review template, as well as additional student documentation attached with approval of the adviser, the EECS Graduate Committee will rate the student's performance as "Above Expectation," "At Expectation," or "Below Expectation" toward the completion of the PhD degree.

Students must pass the Qualifying Review no later than the deadline, which is the semester in which they complete 24 credit hours after admission or within two calendar years after admission, whichever occurs later. If a student has passed the Qualifying Review, then the student is eligible to continue PhD studies. However, a student who does not pass the Qualifying Review by the deadline will be dismissed from the degree program and will be given the opportunity to complete a master's degree (if applicable).

Dissertation Committee

PhD dissertation committees for this degree program must have all of the below characteristics:

- consist of at least five committee members including the committee chair
- the committee chair must be either a Regular Appointment faculty member in EECS or a Secondary-Joint Appointment faculty member in EECS
- at least 50% of committee members (when tabulated including the chair) must be EECS regular faculty
- the majority of committee members must vote in favor of passing for the student to Pass
- in addition to the above, all college and university requirements (such as one member outside of EECS) must be met.

Joint faculty members may serve as committee chairs, but graduate faculty scholars may not serve as committee chairs.

Candidacy Examination

After passing the Qualifying Review, students are required to successfully complete the candidacy examination in order to demonstrate readiness for preliminary research in a chosen field of study. This exam is administered by the student's dissertation advisory committee. Preparedness for taking the candidacy examination requires the acceptance of a professional paper by a peer-reviewed conference or journal that is deemed acceptable by the student's advisory committee. Candidacy is normally attempted at the completion of required coursework and must be passed before registering for doctoral dissertation hours (EEL 7980). Continuous enrollment in at least 3 hours of doctoral dissertation hours is required once a student starts taking dissertation credits.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours.

- Completion of all required formal coursework, except for dissertation hours.
- Successful completion of the candidacy examination.

- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Signed and well-formed Doctoral Committee Candidacy Status form and associated paperwork must be submitted to the Electrical and Computer Engineering Graduate Office for processing on or before **the last day to defend Dissertation during the semester prior to** enrolling in dissertation credits.

Dissertation Proposal Exam

After passing the candidacy examination, the student will write a dissertation proposal and present it to the dissertation advisory committee for approval. The proposal must include a description of the research performed to date and the research planned to be completed for the dissertation. The presentation of a written dissertation proposal must be deemed as passing requirements by the majority of the dissertation committee.

Equipment Fee

Students in the Computer Engineering PhD program pay a $28 equipment fee each semester that they are enrolled. Part-time students pay $14 per semester.

INDEPENDENT LEARNING

The Independent Learning requirement is met by successful completion of the student's candidacy and dissertation defense examinations.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's and bachelor's degree in Computer Engineering or a closely related field, a résumé, three letters of recommendation, and a statement of educational, research, and professional career goals.

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's and bachelor's degree in Computer Engineering or a closely related field, a résumé, three letters of recommendation, and a statement of educational, research, and professional career goals.

The College of Engineering and Computer Science strongly encourages prospective applicants to submit a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying the application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Master's or bachelor's degree in Computer Engineering or a closely related discipline.
- Résumé
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

Application Deadlines

Computer Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Kalpathy Sundaram PhD
Professor
Program Director
eecpe-grad@eecs.ucf.edu
407-823-5326
HEC 439B

Computer Science PhD

PROGRAM DESCRIPTION

The Computer Science PhD program prepares students in the highest level of theory and practice of Computer Science, aiding with the development of research and instruction skills for positions in academia, industry and government sectors.

The Computer Science PhD program produces professionals trained at the highest possible academic level in the theory and practice of Computer Science in order to meet current and projected market demands for Computer Science experts. Students graduate with proven abilities in research and instruction and have expertise suitable for positions in industry, academia and government.

Students in the program receive a broad background in the areas of programming systems and languages, computer architecture and computer science theory while specializing in a research area. Research interests of the computer science faculty include affective computing, applied perception, bioinformatics, computational biology, computational geometry, computer and network security, computer architecture, computer forensics, computer graphics, computer networks, computer vision, cryptography, data compression, database management systems, data mining, design and analysis of algorithms, evolutionary computation, genetic algorithms, graph theory, hardware/software co-design, image processing, machine learning, mixed and virtual reality, mobile computing, modeling and simulation, multimedia systems, natural language processing, neural networks, parallel and distributed processing, performance evaluation, programming languages, quantum computing, semantic web, software agents, software engineering and VLSI systems.

CURRICULUM

The Computer Science PhD program requires a minimum of 72 credit hours beyond the bachelor's degree. A plan of study for each student must be filed within the first two weeks of the student's second semester in the program. Details about this program can be found in the Computer Science PhD Handbook.

This plan must satisfy the following:

- A minimum of 72 credit hours (including CDA 5106, COT 5405, and COT 6410 - all with a grade of "B" (3.0) or better). At most 30 credit hours can be waived from a completed MS program, exclusive of thesis, independent sudy, dissertation and research. Otherwise, at most 9 external credits can be transferred.

- Grades must be a "C" (2.0) or better with at most 6 credit hours having grades below "B" (3.0) and an overall grade point average of 3.0 or better.
- No courses below the 5000-level, with no 5000-level CGS prefix course work.
- No more than 12 credit hours of independent study (6908).
- Five 6000- or 7000-level courses (15 credits) with grades of "B" (3.0) or better taught by EECS faculty. None of these may be independent study or dissertation for which letter grades (not S/U) are assigned.
- Six additional computer science graduate credits to make the total of all non-independent study (e.g., formal coursework exclusive of independent study) of at least 36 credits.
- A minimum of 15 credit hours and a maximum of 24 credit hours of PhD dissertation (CAP, CDA, CEN, CIS, CNT, COP or COT 7980).

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites—12 Credit Hours

An undergraduate degree in Computer Science is desirable but not required. Applicants without a strong undergraduate background in Computer Science must demonstrate an understanding of the material covered in the following upper-division undergraduate courses:

- EEL 4768C Computer Architecture (3 credit hours)
- COP 4020 Programming Languages I (3 credit hours)
- COP 4600 Operating System (3 credit hours)
- COT 4210 Discrete Computational Structures (3 credit hours)

Required Courses—9 Credit Hours

- CDA 5106 Advanced Computer Architecture (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- COT 6410 Computational Complexity (3 credit hours)

Elective Courses—48 Credit Hours

- Grades must be a "C" (2.0) or better with at most 6 credit hours having grades below "B" (3.0) and an overall grade point average of 3.0 or better.
- No courses below the 5000-level, with no 5000-level CGS prefix course work.
- No more than 12 credit hours of independent study (6908).
- Five 6000- or 7000-level courses (15 credits) with grades of "B" (3.0) or better taught by EECS faculty. None of these may be independent study or dissertation for which letter grades (not S/U) are assigned. At least 36 hours must be formal course work, exclusive of independent study or doctoral research.

Dissertation—15 Credit Hours

- XXX 7980 (15 credit hours minimum)

Qualifying Review

The Qualifying Review relies on annual appraisals of the student’s progress conducted by the student’s research/academic adviser. The student’s appraisal template that the adviser completes will assess the student’s academic performance (course performance) and research performance.

On an annual basis, and based on the completed student's appraisal template, as well as additional student documentation (up to the discretion of the Computer Science Graduate Committee), the CS Graduate Committee will rank the student's performance as "Above Expectation," "At Expectation," or "Below Expectation" toward the completion of the PhD degree. The evaluation by the CS Graduate Committee will have detailed justification for the student's ranking, and the ranking and its associated justification will be provided to the student and the student's adviser.

Students will be allowed to attempt the Qualifying Review twice. All students must pass the Qualifying Review in order to remain eligible to continue as a PhD student in the program. All students must request their first Qualifying Review prior to completion of their 18 credit hours since their admission to the program, and their second Qualifying Review prior to completion of their 36 credit hours. A student who passes the Qualifying Review will continue with the completion of the rest of the PhD program's milestones (i.e., Candidacy Examination, Dissertation Proposal Examination, and Dissertation Defense). A student who fails the Qualifying Review will be dismissed from the program and will be given the opportunity to finish their Master's degree (if applicable).

A student who in the CS Graduate Committee's opinion fails the Qualifying Review will be given the opportunity to request a reevaluation of his or her case by the committee. The decision of the CS Graduate Committee, as a result of this reevaluation, is final.

Annual appraisals will end after the student has passed the Qualifying Review; however, annual evaluations by faculty advisers and student's dissertation committee will continue throughout the remainder of the program.

Dissertation Committee

The Dean, through the Chairs and Directors, is responsible for committee formation, additions and deletions. The doctoral committee must consist of a minimum of four members; three must be graduate faculty members from within EECS and one must be at large from outside the EECS faculty. Joint faculty members may serve as school-faculty committee members. The Computer Science Graduate Committee may specify additional membership. The College of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

Joint faculty members may serve as committee chairs, but graduate faculty scholars may not, although they may serve as co-chairs.

All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the advisory committee.

Candidacy Examination

After passing qualifiers, students are required to successfully complete the candidacy examination to demonstrate readiness for preliminary research in a chosen field of study. This exam requires the acceptance of a professional paper by a peer-reviewed conference or journal that is deemed acceptable to the student's advisory committee as a major contribution to student's area of research. Candidacy is normally taken near the completion of required course work and must be passed before registering for doctoral dissertation hours (XXX 7980). Continuous enrollment in at least 3 hours of doctoral dissertation hours is required once a student starts taking 7980 credits. The candidacy status change form and any associated paperwork (advisory committee form, program of study, etc.) must be submitted for processing by the last day of classes of the semester prior to enrolling in dissertation credits. In order to start taking dissertation hours you must be within 57 credit hours.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours. Evidence of successful completion of these requirements must be received in the College of Graduate Studies by the day before the first day of classes in which the student wishes to enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Time Limitation

Students have seven years from the beginning of regular graduate status in the PhD program to complete all requirements for the degree, although most students finish within 4 to 5 years.

Dissertation Proposal

After passing the candidacy examination, the student will write a dissertation proposal and present it orally to the dissertation advisory committee for approval. The proposal must include a description of the research performed to date and research plans.

Dissertation and Oral Defense

Students must write a dissertation on their research that describes a significant original contribution to the field of computer science. The oral defense of the dissertation is reviewed by the research committee. The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's adviser and posted on the college's website and the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date. The dissertation must be approved by the dissertation adviser and committee, the school director or designee and the dean of the college or designee. Format approval from the Thesis and Dissertation Editor and final approval of satisfaction of degree requirements by the College of Graduate Studies is required.

Equipment Fee

Students in the Computer Science PhD program pay a $34 equipment fee each semester that they are enrolled. Part-time students pay $17 per semester.

INDEPENDENT LEARNING

The Independent Learning requirement is met by successful completion of the student's candidacy and dissertation defense examinations.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's and bachelor's degree in Computer Science or a closely related field, a résumé, three letters of recommendation, and a statement educational, research, and professional career objectives.

The College of Engineering and Computer Science strongly encourages prospective applicants to submit a free pre-screening () of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying the application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Outstanding students with a bachelor's degree are encouraged to apply directly into the doctoral program. Admission to the PhD program is formalized by the university upon the recommendation of the Computer Science Graduate Coordinator.

An undergraduate degree in Computer Science is desirable but not required. Applicants without a strong undergraduate background in Computer Science must demonstrate an understanding of the material covered in upper-division undergraduate courses listed under the Articulation Section of the Curriculum Information. Applicants may choose to demonstrate their knowledge of these courses by taking these courses as non-degree seeking and scoring "B" or better in all of them.

Fellowships

Fellowships are awarded based on academic merit to highly qualified students. They are paid to students through the Office of Student Assistance, based on instructions provided by the College of Graduate Studies. Fellowships are given to support a student's graduate study and do not have a work obligation. For more information, see Fellowships, which includes decriptions of UCF fellowships and what you should do to be considered for a fellowship.

Application Deadlines

Computer Science PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Dan Marinescu PhD
Professor
Program Director
cs-grad@cs.ucf.edu
407-823-2779
HEC 304

Conservation Biology PhD

- Conservation Biology
- Integrative Biology

PROGRAM DESCRIPTION

The Conservation Biology PhD program prepares students for independent research and roles within industry, nongovernmental organizations, academia or government sectors combining biological sciences with disciplines such as economics, law, urban/rural planning, politics, communication, philosophy and environmental engineering.

The Conservation Biology PhD program provides an interface between traditional biological sciences and the areas of economics, law, urban and rural planning, politics, communication, philosophy and environmental engineering. The purpose of this training is to produce scientists capable of doing independent research and the ability to work within the broader area of environmental politics, law and economics to communicate issues of conservation biology to policy makers, the general public and industry.

Students will choose one of two specializations: Conservation Biology or Integrative Biology. The Conservation Biology Track is intended to provide the academic background necessary to begin work in industry, nongovernmental organizations or government in a leadership role applying cutting-edge principles to problem solving in conservation biology. The Integrative Biology Track embraces applied and basic research concerning ecological questions to address current concerns in the area of conservation biology. Students taking either track would be prepared to pursue an academic career.

CURRICULUM

Students in the Conservation Biology PhD program must choose either the Conservation Biology Track or the Integrative Biology Track.

The Conservation Biology Track requires 72 credit hours beyond the bachelor's degree, including a minimum of 27 hours of formal course work exclusive of independent study. The formal course work includes 15 credit hours of required core courses and 12 credit hours of graduate-level courses from Biology (or other departments) selected in consultation with the adviser and the dissertation committee (at least 4 of the 12 credit hours must be offered through the Biology Department). The remaining 45 credit hours may consist of additional electives, doctoral dissertation research (PCB 7980), and a maximum of 12 credit hours of combined directed research (PCB 6918, PCB 7919, and PCB 5917) and independent study (PCB 6908). In addition, 15 credit hours of the remaining 45 credit hours must be comprised of doctoral dissertation research (PCB 7980).

The Integrative Biology Track requires 72 credit hours beyond the bachelor's degree, including a minimum of 27 hours of formal course work exclusive of independent study. The formal course work includes 7 credit hours of required core courses and 20 credit hours of graduate-level courses from Biology (or other departments) selected in consultation with the adviser and the dissertation committee (at least 12 of the 20 credit hours must be offered through the Biology Department). The remaining 45 credit hours may consist of additional electives, doctoral dissertation research (PCB 7980), and a maximum of 12 credit hours of combined directed research (PCB 6918, PCB 7919, and PCB 5917) and independent study (PCB 6908). In addition, 15 credit hours of the remaining 45 credit hours must be comprised of doctoral dissertation research (PCB 7980).

A student is required to establish a program of study before the completion of nine credit hours of course work, in conjunction with their dissertation adviser and advisory committee. A student's advisory committee may require the candidate to take any graduate course taught at UCF if deemed appropriate for the student’s area of emphasis. Students entering with a master’s degree may request up to 30 semester credit hours of previous work be waived toward the requirements for this degree with approval from the advisory committee. Students who transfer 30 credit hours must still take 2 credit hours of Biology Seminar (BSC 6935) and Professional Development I (PCB 6095) and II (PCB 6096). Students may register for dissertation research only after passing the candidacy exam.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

INDEPENDENT LEARNING

Graduate students enrolled in the Conservation Biology PhD program are expected to engage in independent learning throughout their graduate career. Research toward, and ultimate completion, of the doctoral dissertation is the primary example of independent learning in which all doctoral students participate. Independent learning is also a key component of the core course in Conservation Biology and Advanced Research Communication, where emphasis is placed on the development of analytical skills and critical thinking. In addition, depending on their career goals, other experiences such as directed readings, additional research projects, or internships may be undertaken by the students.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

Applicants must choose a track in this program. Track(s) may have different requirements.

Applicants should first identify faculty who match their own research interests, and then contact faculty in advance to inquire about research opportunities in faculty labs and to solicit agreement that a faculty member is interested in serving as the student's dissertation advisor. Applicants to the Ph.D. program who do not have a consenting dissertation advisor within the faculty will not be accepted into the program.

Application Deadlines

Conservation Biology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Kenneth Fedorka PhD
Assistant Professor
Program Director
kenneth.fedorka@ucf.edu
407-823-6685
BL 401B

Conversation Biology PhD

Conservation Biology

TRACK DESCRIPTION

The Conservation Biology track in the Conservation Biology PhD program prepares students for independent research and roles within industry, nongovernmental organizations or government sectors combining traditional biological sciences with economics, law, urban/rural planning, politics, communication, philosophy and environmental engineering.

The Conservation Biology track in the Conservation Biology PhD program is intended to provide the academic background necessary to begin work in industry, nongovernmental organizations or government in a leadership role applying cutting-edge principles to problem solving in conservation biology. Students taking this track will be prepared to pursue an academic career.

CURRICULUM

The Conservation Biology Track in the Conservation Biology PhD program requires 72 credit hours beyond the bachelor's degree, including a minimum of 27 hours of formal course work exclusive of independent study. The formal course work includes 15 credit hours of required core courses and 12 credit hours of graduate-level courses from Biology (or other departments) selected in consultation with the adviser and the dissertation committee (at least 4 of the 12 credit hours must be offered through the Biology Department). The remaining 45 credit hours may consist of additional electives, doctoral dissertation research (PCB 7980), and a maximum of 12 credit hours of combined directed research (PCB 6918, PCB 7919, and PCB 5917) and independent study (PCB 6908). In addition, 15 credit hours of the remaining 45 credit hours must be comprised of doctoral dissertation research (PCB 7980).

A student is required to establish a program of study before the completion of nine credit hours of course work, in conjunction with their dissertation adviser and advisory committee. Students are required to complete a minimum of 12 hours of electives in consultation with their advisory committee. In addition to these selected electives, a student's advisory committee may require the candidate to take any graduate course taught at UCF if deemed appropriate for the student’s area of emphasis. Students entering with a master’s degree may request up to 30 semester credit hours of previous work be waived toward the requirements for this degree with approval from the advisory committee. Students who transfer 30 credit hours must still take 2 credit hours of Biology Seminar (BSC 6935) and Professional Development I (PCB 6095) and II (PCB 6096). Students may register for dissertation research only after passing the candidacy exam.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

- PCB 6042 Conservation Biology Theory (4 credit hours)
- PCB 6053C Restoration Ecology (4 credit hours)
- PCB 6466 Methods in Experimental Ecology (3 credit hours)
- BSC 6935 Seminar in Biology (2 credit hours, take twice at 1 credit hour each)
- PCB 6095 Professional Development in Biology I (1 credit hour)
- PCB 6096 Professional Development in Biology II (1 credit hour)

Elective Courses—42 Credit Hours

A minimum of 12 credit hours of formal graduate-level courses from Biology, or other departments, are selected in consultation with the adviser and the dissertation committee. The goal is to tailor the program of study to the individual student's needs while maximizing exposure to a variety of disciplines including, among others, policy, economics, engineering, chemistry or sociology. The remaining 30 credit hours may include additional electives, dissertation research (PCB 7980), internship, and a maximum of 12 credit hours of combined independent study (PCB 6908) and directed research (PCB 6918, PCB 7919, and PCB 5917). Professional internship hours can be substituted for directed research.

Dissertation—15 Credit Hours Minimum

- PCB 7980 Dissertation (15 credit hours)

Advisory Committee

The Advisory Committee shall consist of a minimum of four members, including the dissertation adviser, with at least three members coming from the graduate faculty in the Biology Department. At least one member will be from a department other than Biology or from outside the university. The chair, or co-chair, must be a member of the program graduate faculty.

Enrollment Requirements

Students are required to register for 9 credit hours in fall and spring and 6 credit hours in summer before their candidacy exam. After being admitted to candidacy, minimum enrollment is 3 credit hours of dissertation research each semester.

Qualifying Examination

The written qualifying examination should be completed within the first two years of the student's program. The exam seeks to cover areas of general knowledge and discipline-specific knowledge within the student’s declared track. These questions could be related to the dissertation research proposal or designed to examine general knowledge and reasoning within the field.

The candidate will meet with their advisory committee at least two months prior to the examination to discuss expectations. Committee members must clearly articulate in writing the general areas that may be examined. Any student failing the examination must repeat the examination within six calendar months of the date of the first examination and requires a majority vote by committee members to pass the exam. A second failed attempt will result in dismissal from the program.

Candidacy Examination

Each student will be required to generate, organize and orally defend a written proposal outlining their dissertation research to their dissertation advisory committee no later than 12 months after passing the Qualifying Examination. The oral Candidacy Examination will cover all areas within the scope of the student's doctoral program and requires that the student demonstrate knowledge of the theory, literature and research methodologies relevant to the proposed area of research as well as demonstrate an understanding of how their work relates to the field of biology as a whole. After passing the candidacy examination and meeting other requirements, the student will be deemed as having been admitted to candidacy and can register for dissertation hours. Once a student is admitted to candidacy, the focus will be on dissertation research. For most students, the research and writing of the dissertation will take two to three years after advancing to candidacy. During this time, students should remain in close contact with the dissertation adviser and advisory committee and annual progress reports must be filed with the Graduate Program Director.

Candidacy Examination Proposal

A written dissertation proposal, already approved by the adviser, must be submitted to each committee member no later than two weeks prior to the Candidacy Examination. Typically, the proposal will be in the format described below. However, in cases where this format is not appropriate, an alternative format may be used with the approval of the dissertation adviser. The proposal should be approximately 10 to 15 pages in length not including references, single-spaced and typed in 12-point font with one-inch margins on all sides. The use of figures and tables is encouraged. With rare exceptions it is expected that dissertation research will be hypothesis-driven.

1. Specific Aims: Describe concisely the problem(s) to be addressed and the specific goals of the dissertation research as they relate to the problem(s), including clear statements of hypotheses to be tested.
2. Background and Significance: Review background literature relevant to the dissertation topic, indicating clearly where gaps in knowledge exist. Justify the need for the research by explaining its anticipated significance. Conclude by linking gaps in current knowledge to the proposed specific aims.
3. Methodology: Outline carefully the study design (observations, experiments, models, statistical analysis, etc.) related to, and the methodology to be used for, each specific aim. Methodologies should be explained in sufficient detail to allow committee members to assess the validity of its use in the study. Potential outcomes and alternative approaches should be discussed.
4. Literature Cited: References should be indicated in the main body of the proposal wherever appropriate and should follow the format of a peer-reviewed journal in a field of study appropriate to your research. This section can be as long as necessary.

Examination

At least two weeks prior to the examination, an abstract describing the proposed research will be posted in the Biological Sciences Building and circulated by e-mail among faculty and graduate students. The candidate will present the research proposal in a forum open to all faculty, students and visitors. The oral presentation should be approximately 30-45 minutes in length to be followed by a public question-and-answer period. Presentation of preliminary data is neither required nor expected, but should be provided if available and relevant. With the exception of the advisory committee and candidate, all faculty, students and visitors will leave at the conclusion of the public question-and-answer period. The committee will continue the exam in closed session with further questioning. Questions can be directed to any matter relevant to the research proposal and areas of weakness previously identified in the written (qualifying) exam. A majority vote is required to pass the examination; however, no more than one negative vote is permitted. The majority must include the dissertation adviser. Any student failing the examination must repeat the examination within six calendar months of the date of the first examination. A second failed attempt will result in dismissal from the program.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Program of study submitted and approved.
- Dissertation Committee formed (without external member)
- Successful completion of the qualifying exam.
- Completion of all coursework (except for dissertation hours)
- External member added to Dissertation Committee.
- Successful completion of candidacy exam.

Dissertation Defense

The dissertation is expected to represent an original and significant contribution to the discipline. Upon completion and approval of the doctoral dissertation by all appropriate faculty and university offices, the student will make a formal presentation of the research findings in seminar format to the dissertation committee and other university faculty and students who may wish to attend.

The dissertation should be in a format appropriate for publication and should be "tightened" to a readiness for submittal by use of appendixes for nonessential information. The major role of the student’s advisory committee is to offer guidance on study design and interpretation of results. A polished draft must be delivered to the advisory committee for review after the student and dissertation adviser have agreed upon editorial changes; this should occur well before the anticipated date of the final defense. Committee members have the right to reject documents that fail to meet these guidelines. Committee members should be given at least two weeks to review the draft before the student attempts to schedule the final defense.

The final defense is to be scheduled only after the advisory committee agrees that the dissertation is ready for defense. Committee members should return the corrected dissertation to the student two weeks after receipt and the candidate should check with committee members to ensure they have the time to review the document. If the student delivers the final draft to the committee one month prior to the proposed defense date, that would allow two weeks before the scheduled defense date for the student to make recommended changes.

At least two weeks prior to the defense, an abstract describing the research conducted and conclusions reached will be posted in the Biological Sciences Building, circulated by e-mail among faculty and graduate students, and posted at the College of Graduate Studies Events Calendar. The candidate will present the research in a forum open to all faculty, students, and visitors. The oral presentation should be approximately 45-50 minutes in length to be followed by a question-and-answer period. In the presentation the candidate should focus on background information, describe the research performed, and draw attention to the significance of the conclusions reached. With the exception of the committee and candidate, all faculty, students, and visitors will leave at the conclusion of the question-and-answer period. The committee will continue the defense and the candidate will answer questions about the subject matter presented and defend the conclusions drawn. The committee will ask questions of the process used and assess the candidate’s level of competency with the research topic. A majority vote is required to pass the examination; however, no more than one negative vote is permitted. The majority must include the dissertation adviser.

Student Orientation

An orientation for all incoming students will be scheduled one week prior to each fall semester. The orientation will include tours of the program facilities, a session on registration, university policies and procedures, and expectations of doctoral study. Further, Environmental Health and Safety will present a program on topics such as laboratory safety, chemical and fire safety, biohazard training, and radioisotope handling. Expectations for Graduate Teaching Assistants (GTA) and Graduate Research Assistants (GRA) will be fully covered. In addition, students will be required to participate in the program for GTAs offered by the UCF Faculty Teaching and Learning Center and the College of Sciences. Students are strongly encouraged to attend the university's orientation also, held approximately one week before classes begin in the Fall semester.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning experience.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, a résumé, and a statement of research interest and purpose, including a summary of relevant work or research experience.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Résumé.
- Statement of research interest and purpose, including a summary of relevant work or research experience.
- A computer-based score of 230 (or 89 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Students entering the graduate program with regular status are normally expected to have completed course work generally required for a bachelor's degree in biology.

Applicants should first identify faculty who match their own research interests, and then contact faculty in advance to inquire about research opportunities in faculty labs and to solicit agreement that a faculty member is interested in serving as the student's dissertation advisor. Applicants to the Ph.D. program who do not have a consenting dissertation advisor within the department faculty will not be accepted into the program. Admission is competitive and based on an overall assessment of the qualifications as submitted and the availability of faculty to serve as dissertation advisor.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, the identification of a dissertation advisor, and the applicant's potential for completing the degree.

Application Deadlines

Conservation Biology	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Kenneth Fedorka PhD
Assistant Professor
Program Director
kenneth.fedorka@ucf.edu
407-823-6685
BL 401B

Conservation Biology PhD

Integrative Biology

TRACK DESCRIPTION

The Integrative Biology track in the Conservation Biology PhD program prepares students for independent research and roles within industry, nongovernmental organizations or government sectors combining traditional biological sciences with economics, law, urban/rural planning, politics, communication, philosophy and environmental engineering.

The Integrative Biology track in the Conservation Biology PhD program embraces applied and basic research concerning ecological questions to address current concerns in the area of conservation biology. Students taking this track will be prepared to pursue an academic career.

CURRICULUM

The Integrative Biology Track requires 72 credit hours beyond the bachelor's degree, including a minimum of 27 hours of formal course work exclusive of independent study. The formal course work includes 7 credit hours of required core courses and 20 credit hours of graduate-level courses from Biology (or other departments) selected in consultation with the adviser and the dissertation committee (at least 12 of the 20 credit hours must be offered through the Biology Department). The remaining 45 credit hours may consist of additional electives, doctoral dissertation research (PCB 7980), and a maximum of 12 credit hours of combined directed research (PCB 6918, PCB 7919, and PCB 5917) and independent study (PCB 6908). In addition, 15 credit hours of the remaining 45 credit hours must be comprised of doctoral dissertation research (PCB 7980).

A student is required to establish a program of study before the completion of nine credit hours of course work, in conjunction with their dissertation adviser and advisory committee. Students are required to complete a minimum of 20 hours of electives in consultation with their advisory committee. In addition to these selected electives, a student's advisory committee may require the candidate to take any graduate course taught at UCF if deemed appropriate for the student's area of emphasis. Students entering with a master's degree may request up to 30 semester credit hours of previous work be waived toward the requirements for this degree with approval from the advisory committee. Students who transfer 30 credit hours must still take 2 credit hours of Biology Seminar (BSC 6935) and Professional Development I (PCB 6095) and II (PCB 6096). Students may register for dissertation research only after passing the candidacy exam.

Total Credit Hours Required:

73-74 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—7 Credit Hours

- PCB 6466 Methods in Experimental Ecology (3 credit hours)
- BSC 6935 Seminar in Biology (2 credit hours, take twice at 1 credit hour each)
- PCB 6095 Professional Development in Biology I (1 credit hour)
- PCB 6096 Professional Development in Biology II (1 credit hour)

Elective Courses—50 Credit Hours

A minimum of 20 credit hours of formal graduate-level courses from Biology, or other departments, are selected in consultation with the adviser and the dissertation committee. The goal is to tailor the program of study to the individual student's needs while maximizing exposure to a variety of disciplines including, among others, policy, economics, engineering, chemistry or sociology. The remaining 30 credit hours may include additional electives, dissertation research (PCB 7980), and a maximum of 12 hours of combined independent study (PCB 6908) and directed research (PCB 6918, PCB 7919, and PCB 5917). Professional internship hours can be substituted for directed research.

Dissertation—15 Credit Hours Minimum

- PCB 7980 Dissertation (15 credit hours)

Advisory Committee

The Advisory Committee shall consist of a minimum of four members, including the dissertation adviser, with at least three members coming from the graduate faculty of the Biology Department. At least one member will be from a department other than Biology or from outside the university. The chair, or co-chair, must be a member of the program graduate faculty.

Enrollment Requirements

Students are required to register for 9 credit hours in fall and spring and 6 credit hours in summer before their candidacy exam. After being admitted to candidacy, minimum enrollment is 3 credit hours of dissertation research each semester.

Qualifying Examination

The written qualifying examination should be completed within the first two years of the students program. The exam seeks to cover areas of general knowledge and discipline-specific knowledge within the student's declared track. These questions could be related to the dissertation research proposal or designed to examine general knowledge and reasoning within the field.

The candidate will meet with their advisory committee at least two months prior to the examination to discuss expectations. Committee members must clearly articulate in writing the general areas that may be examined. Any student failing the examination must repeat the examination within six calendar months of the date of the first examination and the examination requires a majority vote by committee members. A second failed attempt will result in dismissal from the program.

Candidacy Examination

Each student will be required to generate, organize and orally defend a written proposal outlining their dissertation research to their dissertation advisory committee no later than 12 months after passing the Qualifying Examination. The oral Candidacy Examination will cover all areas within the scope of the student's doctoral program and requires that the student demonstrate knowledge of the theory, literature and research methodologies relevant to the proposed area of research as well as demonstrate an understanding of how their work relates to the field of biology as a whole. After passing the candidacy examination and meeting other requirements, the student will be deemed as having been admitted to candidacy and can register for dissertation hours. Once a student is admitted to candidacy, the focus will be on dissertation research. For most students, the research and writing of the dissertation will take two to three years after advancing to candidacy. During this time, students should remain in close contact with the dissertation adviser and advisory committee and annual progress reports must be filed with the Graduate Program Director.

Candidacy Examination Proposal

A written dissertation proposal, already approved by the adviser, must be submitted to each committee member no later than two weeks prior to the Candidacy Examination. Typically, the proposal will be in the format described below. However, in cases where this format is not appropriate, an alternative format may be used with the approval of the dissertation adviser. The proposal should be approximately 10 to 15 pages in length not including references, single-spaced and typed in 12-point font with one-inch margins on all sides. The use of figures and tables is encouraged. With rare exceptions it is expected that dissertation research will be hypothesis-driven.

1. Specific Aims: Describe concisely the problem(s) to be addressed and the specific goals of the dissertation research as they relate to the problem(s), including clear statements of hypotheses to be tested.
2. Background and Significance: Review background literature relevant to the dissertation topic, indicating clearly where gaps in knowledge exist. Justify the need for the research by explaining its anticipated significance. Conclude by linking gaps in current knowledge to the proposed specific aims.
3. Methodology: Outline carefully the study design (observations, experiments, models, statistical analysis, etc.) related to, and the methodology to be used for, each specific aim. Methodologies should be explained in sufficient detail to allow committee members to assess the validity of its use in the study. Potential outcomes and alternative approaches should be discussed.
4. Literature Cited: References should be indicated in the main body of the proposal wherever appropriate and should follow the format of a peer-reviewed journal in a field of study appropriate to your research. This section can be as long as necessary.

Examination

At least two weeks prior to the examination, an abstract describing the proposed research will be posted in the Biological Sciences Building and circulated by e-mail among faculty and graduate students. The candidate will present the research proposal in a forum open to all faculty, students and visitors. The oral presentation should be approximately 30-45 minutes in length to be followed by a public question-and-answer period. Presentation of preliminary data is neither required nor expected, but should be provided if available and relevant. With the exception of the advisory committee and candidate, all faculty, students and visitors will leave at the conclusion of the public question-and-answer period. The committee will continue the exam in closed session with further questioning. Questions can be directed to any matter relevant to the research proposal and areas of weakness previously identified in the written (qualifying) exam. A majority vote is required to pass the examination; however, no more than one negative vote is permitted. The majority must include the dissertation adviser. Any student failing the examination must repeat the examination within six calendar months of the date of the first examination. A second failed attempt will result in dismissal from the program.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Program of study submitted and approved.
- Dissertation Committee formed (without external member).
- Successful completion of qualifying exam.
- Completion of all coursework (except for dissertation hours).
- External member added to Dissertation Committee.
- Successful completion of candidacy exam.

Dissertation Defense

The dissertation is expected to represent an original and significant contribution to the discipline. Upon completion and approval of the doctoral dissertation by all appropriate faculty and university offices, the student will make a formal presentation of the research findings in seminar format to the dissertation committee and other university faculty and students who may wish to attend.

The dissertation should be in a format appropriate for publication and should be "tightened" to a readiness for submittal by use of appendixes for nonessential information. The major role of the student's advisory committee is to offer guidance on study design and interpretation of results. A polished draft must be delivered to the advisory committee for review after the student and dissertation adviser have agreed upon editorial changes; this should occur well before the anticipated date of the final defense. Committee members have the right to reject documents that fail to meet these guidelines. Committee members should be given at least two weeks to review the draft before the student attempts to schedule the final defense. The final defense is to be scheduled only after the advisory committee agrees that the dissertation is ready for defense. Committee members should return the corrected dissertation to the student two weeks after receipt and the candidate should check with committee members to ensure they have the time to review the document. If the student delivers the final draft to the committee one month prior to the proposed defense date, that would allow two weeks before the scheduled defense date for the student to make recommended changes.

At least two weeks prior to the defense, an abstract describing the research conducted and conclusions reached will be posted in the Biological Sciences Building, circulated by e-mail among faculty and graduate students, and posted on the College of Graduate Studies Events Calendar. The candidate will present the research in a forum open to all faculty, students, and visitors. The oral presentation should be approximately 45-50 minutes in length to be followed by a question-and-answer period. In the presentation the candidate should focus on background information, describe the research performed, and draw attention to the significance of the conclusions reached. With the exception of the committee and candidate, all faculty, students, and visitors will leave at the conclusion of the question-and-answer period. The committee will continue the defense and the candidate will answer questions about the subject matter presented and defend the conclusions drawn. The committee will ask questions of the process used and assess the candidate's level of competency with the research topic. A majority vote is required to pass the examination; however, no more than one negative vote is permitted. The majority must include the dissertation adviser.

Student Orientation

An orientation for all incoming students will be scheduled one week prior to each fall semester. The orientation will include tours of the program facilities, a session on registration, university policies and procedures, and expectations of doctoral study. Further, Environmental Health and Safety will present a program on topics such as laboratory safety, chemical and fire safety, biohazard training, and radioisotope handling. Expectations for Graduate Teaching Assistants (GTA) and Graduate Research Assistants (GRA) will be fully covered. In addition, students will be required to participate in the program for GTAs offered by the UCF Faculty Center for Teaching and Learning and the College of Sciences. Students are strongly encouraged to attend the university orientation as well, held approximately one week prior to each fall semester.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning experience.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide transcripts, an official, competitive GRE score taken within the last five years, three letters of recommendation, a résumé, and a statement of research interest and purpose, including a summary of relevant work or research experience.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Résumé.
- Statement of research interest and purpose, including a summary of relevant work or research experience.
- A computer-based score of 230 (or 89 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Students entering the graduate program with regular status are normally expected to have completed course work generally required for a bachelor’s degree in biology.

Applicants should first identify faculty who match their own research interests, and then contact faculty in advance to inquire about research opportunities in faculty labs and to solicit agreement that a faculty member is interested in serving as the student's dissertation advisor. Applicants to the Ph.D. program who do not have a consenting dissertation advisor within the department faculty will not be accepted into the program. Admission is competitive and based on an overall assessment of the qualifications as submitted and the availability of faculty to serve as dissertation advisor.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, the identification of a dissertation adviser, and the applicant's potential for completing the degree.

Application Deadlines

Integrative Biology	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Kenneth Fedorka PhD
Assistant Professor
Program Director
kenneth.fedorka@ucf.edu
407-823-6685
BL 401B

Criminal Justice PhD

PROGRAM DESCRIPTION

The program focuses on criminal justice and takes advantage of the city of Orlando and surrounding cities and counties to examine criminal justice issues from multiple angles and levels.

The program is intended to serve many purposes. Chief among them are:

- Prepare disciplinary stewards capable of advancing scholarship in criminal justice;
- Prepare a qualified workforce to assume criminal justice instructional responsibilities in postsecondary institutions;
- Prepare analysts competent to staff federal, state, and local criminal justice agencies; and
- Improve safety and justice in communities through research partnerships with neighborhood, city, county and state agencies and associations.

Students completing the program will be well prepared to pursue academic positions in universities, research positions in criminal justice agencies, and consultancies in program evaluation and needs assessment.

CURRICULUM

The Doctoral Program in Criminal Justice is a 57-credit-hour, post-master's program of study and research. Substantive emphasis is placed on core coursework in criminal justice theory and institutions, and on in-depth concentrations in policing, corrections or juvenile justice. Students complete a minimum of 42 credit hours of doctoral course work and 15 credit hours of dissertation research.

Total Credit Hours Required:

57 Credit Hours Minimum beyond the Master's Degree

Prerequisites

Applicants are expected to have a master's degree in criminal justice or a closely related discipline. Applicants' transcripts will be reviewed for successful completion of a sufficient number of fundamental criminal justice classes. Applicants may be required to complete master's-level courses in certain topics before being admitted to the program or permitted to take classes.

Students must have completed master's-level courses in advanced research methods and advanced quantitative methods and be familiar with SPSS, SAS, STATA, or R prior to enrolling in the Methodological Core courses. Students who do not meet this requirement may be required to complete CCJ 6702 Advanced Research Methods and CCJ 6714 Advanced Quantitative Methods prior to enrolling in CCJ 7708 Advanced Quantitative Methods for Criminal Justice Research and CCJ 7727 Advanced Research Methods in Criminal Justice. All students must also have completed master's level courses in the concentration area they choose prior to taking courses in that area (policing, corrections, or juvenile justice).

Required Courses—36 Credit Hours

Substantive Core—15 Credit Hours

A grade of B or better is required for all courses listed in the Substantive Core.

- CCJ 7019 Seminar in the Nature of Crime (3 credit hours)
- CCJ 7457 Seminar in Criminal Justice Theory (3 credit hours)

- CCJ 7096 Seminar in Criminal Justice Systems (3 credit hours)
- CCJ 7785 Teaching Criminal Justice (3 credit hours)
- CCJ 7775 Criminal Justice Research in the Community (3 credit hours)

Methodological Core—12 Credit Hours

A grade of B or better is required for all courses listed in the Methodological Core.

- CCJ 7727 Advanced Research Methods in Criminal Justice (3 credit hours)
- CCJ 7708 Advanced Quantitative Methods for Criminal Justice Research (3 credit hours)

Select two courses from the list below or another methodological course with adviser approval:

- CCJ 7725 The Geography of Crime:Theory and Methods (3 credit hours)
    - Students selecting this option must complete CCJ 6073 Data Management for Crime Analysis and CCJ 6079 Crime Mapping and Analysis in Criminal Justice
- CCJ 7747 Hierarchical Linear Modeling in Criminal Justice Research (3 credit hours)
- CCJ 7752 Structural Equation Modeling in Criminal Justice Research (3 credit hours)

Concentration Area—9 Credit Hours

Students select an area of concentration and complete the assigned 9 credit hours of coursework. Entering doctoral students must have completed a master's-level precursor in their chosen area (e.g., master's-level survey course in policing if the area chosen is Policing Theory and Research). A grade of B or better is required for all courses listed in the selected Concentration area. Areas of concentration are:

Policing Theory and Research

- CJE 6320 Seminar in Police Administration (3 credit hours)
- CJE 6456 Seminar in Policing Urban Communities (3 credit hours)
- CJE 6706 Seminar in Police Socialization and Culture (3 credit hours)

Correctional Theory and Research

- CJC 6135 Seminar in Institutional Corrections (3 credit hours)
- CJC 6165 Seminar in Community Corrections (3 credit hours)
- CJC 6486 Seminar in Correctional Effectiveness (3 credit hours)

Juvenile Justice Theory and Research

- CJJ 6124 Seminar in Prosecuting Juvenile Offenders (3 credit hours)
- CJJ 6126 Seminar in Juvenile Corrections (3 credit hours)
- CJJ 6546 Seminar in Policing and Prevention in the Juvenile Justice System (3 credit hours)

Elective Courses—6 Credit Hours

Students select two additional courses (3 credit hours each) in consultation with program adviser and mentor.

Examinations

Students must successfully complete a series of cumulative examinations to ensure expertise in the substantive, methodological and concentration areas. Students may enroll in doctoral research (CCJ 7919) during the period of study preceding the examinations.

Dissertation—15 Credit Hours

Upon successful completion of all examinations and prospectus defense, students will enter candidacy and complete a dissertation. The dissertation topic should be grounded in the student's selected concentration area. Dissertation committees will contain a minimum of four faculty members, at least three of which (including the chair) will be from the Department of Criminal Justice. The fourth member must be from outside the Department of Criminal Justice and may be from outside the university. All dissertation committee members must be approved graduate faculty or graduate faculty scholars.

- CCJ 7980 (15 credit hours)

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, résumé, personal narrative, three letters of recommendation, and a writing sample.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- An earned Master's degree in criminal justice or a closely related discipline from an accredited institution.
- Official, competitive GRE score taken within the last five years.
- Three letters of reference from faculty or professionals who can assess the student's ability to succeed in a doctoral program. A minimum of two letters must be from university faculty members, at least one of which must be written by a faculty member from the institution/program from which the Master's degree was earned, preferably a thesis advisor or close mentor who has the capacity to directly assess the applicant's potential for PhD-level work
- A personal narrative of 500 - 1,000 words describing research interests, educational expectations, career aspirations, level of computer skills, and any special qualifications that may enhance the overall learning environment of the CJ PhD program.
- A curriculum vita.
- A writing sample that is at least 2,000 words long, is academic in nature (e.g., paper written for a Master's class), and demonstrates the applicant's ability to complete graduate-level composition. Should not be an article accepted for publication and applicant must be sole author.

Applicants may be requested to participate in an interview (in person, by Skype, or by phone) with the Department's Doctoral Program Committee.

Admission to the Criminal Justice doctoral program will be granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match to the program, ability to enhance program strength and diversity, and potential for completing the degree and making significant contributions to criminal justice.

Application Deadlines

Criminal Justice PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Elexis Ritz
Program Staff
elexis.ritz@ucf.edu
407-823-6093
HPA 311

Curriculum and Instruction EdD

PROGRAM DESCRIPTION

The Curriculum and Instruction EdD program is designed for experienced practicing educators and practitioners who wish to gain advanced skills in:

1. Evaluating the effectiveness of educational and clinical programs and identifying impediments to effective practice and program improvement;
2. Analyzing and synthesizing educational and clinical research and scholarship to identify research-based practices and solutions to complex problems of the practice;
3. Leading the change process through the implementation of data and evidence-based decisions and solutions.

The Doctor of Education program culminates with the Dissertation in Practice.

CURRICULUM

The Doctor of Education (EdD) program is a professional practice doctorate. It is problem-based and designed for practitioners who aspire to positions of influence through their engagement in the development of others. The program builds that expertise from a core of courses in learning, development and motivation; data, accountability and leadership; organizational contexts and the use of research to drive decision-making. Students will work with a team of faculty and field advisers who will support their specialization area. This program is intended for professionals who are interested in teaching in a college, university, or community college, or leading program improvement in a school or school district, higher education, social service agencies, military or business settings.

The EdD in Curriculum and Instruction consists of three distinct program areas, all with emphasis on professional practice: core, concentration, and capstone. The program requires 21 credit hours of core courses, 15 credit hours within the chosen concentration area and 18 credit hours of dissertation in practice, including proposal, defense, and final submission of a dissertation in practice.

Total Credit Hours Required:

54 Credit Hours Minimum beyond the Master's Degree

Required Courses—54 Credit Hours

Core—21 Credit Hours

The Core courses include 12 credit hours covering what all graduates of a professional practice doctoral program should know and be able to do and 9 credit hours of research continuum designed to identify, analyze and evaluate complex problems of practice.

- EDP 7517 Facilitating Learning, Development and Motivation (3 credit hours)
- EDF 7457 Data, Assessment and Accountability (3 credit hours)
- EDA 7101 Organizational Theory in Education (3 credit hours)
- EDF 7494 Identifying Complex Problems of Practice (3 credit hours)
- EDF 7478 Analysis of Data for Complex Problems of Practice (3 credit hours)
- EDF 7468 Evaluation of Complex Problems of Practice (3 credit hours)
- EDG 7985 Proposing and Implementing Data-Driven Decisions (3 credit hours)

Concentration—15 Credit Hours

The concentration is comprised of 12 credit hours of specialization courses and 3 credit hours of "Laboratory of Practice."

Students must select an area of concentration. The concentration courses are designed to enhance the student's professional practice by extending the knowledge base earned through the master's degree and work experience. Concentration areas are subject to the discretion of the College based on course and faculty availability. Applicants are advised to contact the Program Director regarding concentrations.

Students must complete one 3-credit-hour "Laboratory of Practice" experience. The Laboratory of Practice is a field-based experience. This is not a "work for credit" experience; rather, it places the student in a professional setting for the purpose of gaining practical leadership experience. Students may also enroll in an internship designated by the concentration area as an alternative to the Laboratory of Practice.

- EDG 7947 Laboratory of Practice (3 credit hours; may be repeated for a total of 6 credit hours) Examples of concentration areas are provided below; however, these are **only examples** and do not represent specific requirements.

Students should be aware that not every concentration course is offered every semester and concessions will need to be considered based on the availability of coursework, faculty, course prerequisites, and other institutional factors.

Example I: Curriculum and Instruction

The Curriculum and Instruction option provides students with a broad understanding of the factors affecting education and approaches to addressing systemic problems. For example, a student interested in curriculum design and development and contemporary instructional practice may select the following specialization to include:

- EDG 7692 Issues in Curriculum (3 credit hours)
- EDG 7221 Advanced Curriculum Theory (3 credit hours)
- EDF 7232 Analysis of Learning Theories in Instruction (3 credit hours)
- EDG 7325 Models of Teaching and Instructional Theory (3 credit hours)

Example II: Instructional Design and Technology

- EME 6055 Current Trends in Instructional Technology (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6417 Interactive Online and Virtual Teaching Environment (3 credit hours)
- EME 6458 Virtual Teaching and Digital Education (3 credit hours)

Program Milestones

Program milestones are observable demonstrations of competency administered in place of comprehensive exams. Milestones are designed to monitor student progress and clear the student for continuation to the next program level.

- Milestone 1 – Gap Analysis
- Milestone 2 – Problem of Practice Exhibition
- Milestone 3 – Capstone Project Proposal and Proposal Defense

To enter EDG 7987: Dissertation in Practice for the EdD, students must have an overall 3.0 GPA on all graduate work in the program and successfully complete the three required program milestones.

Dissertation in Practice—18 Credit Hours

- EDG 7987 Dissertation in Practice (18 credit hours minimum; repeatable for credit)

The dissertation in practice is the culmination of coursework and field experience as it relates to complex problems of education practice. The dissertation is the final demonstration of competency in the Curriculum and Instruction EdD. It is a rigorous academic project and is expected to demonstrate the skills and knowledge the student has acquired throughout the program as applied in an authentic professional environment. The dissertation is completed in partnership with the student, university faculty, and the student's mentor/client. It may be a group or team project.

The dissertation in practice is presented in a thorough and comprehensive written report. It must be appropriately formatted according to APA 6th edition citation guidelines. The student must present findings to both university faculty and the student's client. The dissertation in practice will be evaluated on the thoroughness, applicability and appropriateness of the work. The project also includes an oral defense and presentation of the student's program portfolio.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a goal statement, three letters of recommendation, and a resumé.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- **Official transcript**
  One official transcript (in a sealed envelope) from each college/university attended.
- **Master's degree in a closely related field.**
- **Graduate Record Examination scores and transcripts**
  Official, competitive GRE score taken within the last five years.
- **The goal statement**
  The goal statement should clearly convey the applicant's intended area of concentration, professional experience, and professional goals after completion of the program. The admissions committee will review the goal statement to determine whether the EdD program and applicant are a good match. The goal statement also serves as a sample of the applicant's writing ability for the admissions committee and should thus be clear and concise.
- **Resume**
  A current professional resume with at least three to five years of successful professional practice should be submitted with the application.
- **Three letters of reference**
  Three letters of reference will be read by the admissions committee to determine whether the applicant has the academic ability to succeed in the program. The letters of reference should be written by graduate faculty who are able to judge the applicant's abilities in a doctoral program, including their research and writing skills. One of the letters should be from the applicant's employer/supervisor. This letter will support the applicant's professional experience and commitment to the program.
- **Interview**
  The application interview is an important way for faculty to attach faces to names and draw distinctions among applicants. The admissions interview adds the personal touch to your application. Students in the Ed.D. program will spend three full years working closely with faculty and colleagues in both individual and group settings. The interview allows faculty to meet potential students to begin the process of forming a cohesive and dynamic cohort.
- **Memorandum of Understanding**
  Applicants must submit a Memorandum of Understanding from their current employer/learning organization (Please click here for a copy of this form) or from the client organization with whom the student will work while in the program (Please click here for a copy of this form). The MOU serves as an understanding of the applicant's commitment to the EdD program as well as the agreement to work with and support the student while in the program. This document is not required prior to acceptance to the program, but will be required prior to the start of the Laboratory of Practice.

Application Deadlines

Curriculum and Instruction EdD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	May 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Thomas Vitale EdD
Program Director
251dward.vitale@ucf.edu
407-823-4212
Education 115P

Education PhD

- Communication Sciences and Disorders
- Counselor Education
- Elementary Education
- Early Childhood
- Exceptional Education
- Exercise Physiology
- Higher Education
- Instructional Design and Technology
- Mathematics Education
- Methodology, Measurement and Analysis
- Reading Education
- Science Education
- Social Science Education
- Teaching English to Speakers of Other Languages

PROGRAM DESCRIPTION

The PhD in Education is a research-oriented degree appropriate for those who seek positions in the professoriate or in school districts, businesses, industry, educational agencies and other educational settings that require a strong research base.

It is the intent of this program to be interdisciplinary, allowing flexibility for students who will work in research clusters and learning communities with faculty on education-related research. Programs of study can be designed for those who seek faculty positions in a research university or research-oriented education positions in business and industry.

CURRICULUM

The Education PhD requires a minimum of 69 credit hours beyond the master's degree; minimum credit hour requirements vary by track. Students from all tracks must complete 24 credit hours of core courses, 24 credit hours of dissertation, and 3 credit hours of internship; the Communication Sciences and Disorders track requires 2 credit hours in university teaching and 2 credit hours in clinical supervision. Additional course requirements vary by track. All students must also complete the candidacy examination.

Total Credit Hours Required:

69-84 Credit Hours Minimum beyond the Master's Degree

This section describes the elements of the curriculum that are in common for all of the tracks. The internship requirement is common to most of the tracks but not all, and more detail is provided on the internship in each specialization section.

Required Courses

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)

    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Internship—3 Credit Hours

Specialization in all tracks must include a professional internship. In the Communication Sciences and Disorders Track, however, students must complete a three-part internship: one in university teaching (2 credit hours), one in clinical supervision (2 credit hours) for children, adolescents and adults with disorders in language and literacy, and one in professional development (2 credit hours).

Dissertation—24 Credit Hours

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance.Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.

- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

INDEPENDENT LEARNING

The dissertation fulfills the independent learning requirement.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements. Interview attendance is required for admission consideration. The one exception to this requirement: students applying who live outside of the United States. A Skype interview will be offered to students living outside of the U.S. if they meet the qualifications for an interview invitation. Please note: a Skype interview will not provide the same in-depth interview experience given to those attending our all day event.Applicants must choose a track in this program. Track(s) may have different requirements. Interview attendance is required for admission consideration. The one exception to this requirement: students applying who live outside of the United States. A Skype interview will be offered to students living outside of the U.S. if they meet the qualifications for an interview invitation. Please note: a Skype interview will not provide the same in-depth interview experience given to those attending our all day event.

Application Deadlines

Education PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Mike Robinson PhD
Professor
Chair
254dward.robinson@ucf.edu
407-823-6106
ED 209E

Education PhD

Communication Sciences and Disorders

TRACK DESCRIPTION

The Communication Sciences and Disorders track in the Education PhD program is designed specifically for those who wish to pursue careers as scholars, teachers and leaders in the area of school speech-language pathology with a content focus on language disorders and literacy. The program prepares doctoral-level professionals to serve as university professors in academic or clinical course work and supervisors or directors of school programs at district, state or national levels. The emphasis is on developing expertise in conducting research to promote evidence-based practice and in collaborating with professionals from a variety of related disciplines.

CURRICULUM

The Communication Sciences and Disorders track in the Education PhD program requires a minimum of 81 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 18 credit hours of specialization courses, 9 credit hours of electives, and 24 credit hours of dissertation. In addition, the internship in this track requires 2 credit hours in university teaching, 2 credit hours in clinical supervision, and 2 credit hours of professional development. All students must complete the candidacy examination.

Total Credit Hours Required:

81 Credit Hours Minimum beyond the Master's Degree

Required Courses—42 Credit Hours

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education ;(3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization—18 Credit Hours

- SPA 6843 Severe Language-Based Reading and Writing Disabilities (3 credit hours)
- SPA 7490 Advanced Studies in Language Disorders (3 credit hours)
- SPA 7493 Advanced Studies in School Speech-Language Pathology (3 credit hours)
- SPA 7494 Doctoral Seminar I: Spoken and Written Language Disorders (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (3 credit hours)

- IDS 7657 Professional Collaboration Around Language Issues (3 credit hours)

Elective Courses—9 Credit Hours

- Advanced course work in Reading (3 credit hours)
- Advanced course work in Exceptional Education (3 credit hours)
- Additional course work in Teaching English to Speakers of Other Languages (3 credit hours)

Dissertation—24 Credit Hours

- Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Internship—6 Credit Hours

Specialization in all tracks must include a professional internship (minimum of 6 credit hours). In the Communication Sciences and Disorders Track, however, students must complete a three-part internship:

- University teaching (2 credit hours)
- Clinical supervision (2 credit hours)
- Professional development (2 credit hours)

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance.Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning requirement.

APPLICATION REQUIREMENTS

In addition to meeting general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's degree with an emphasis related to one of the tracks in the PhD program and master's level competency in educational research and statistics, three letters of recommendation, goal statement, and résumé.

Application Deadlines

Communication Sciences and Disorders	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				
International Transfer Applicants				

CONTACT INFO

Jane Lieberman PhD
Professor
Program Director
Jane.Lieberman@ucf.edu
407-823-4790
HPA2 108

Education PhD

Counselor Education

TRACK DESCRIPTION

The program is fully accredited with the Council for the Accreditation of Counseling and Related Educational Programs (CACREP). In addition to advanced curricular experiences in counseling, courses are designed to examine the fundamental issues and theory of teaching adults in higher education, research, supervision, consultation and to provide supervised experiences in each area. The UCF Community Counseling and Research Center serves as a hub for teaching and research in the program,includes facilities for group counseling and play therapy, and provides annual services to over 1,400 individuals, couples, and families in the central Florida community. The clinic also provides opportunities for doctoral students to practice their supervision skills.

CURRICULUM

The Counselor Education track in the Education PhD program requires a minimum of 84 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 30 credit hours of specialization courses, 24 credit hours of dissertation, and 6 credit hours of internship. All students must also complete the candidacy examination.

Total Credit Hours Required:

84 Credit Hours Minimum beyond the Master's Degree

Required Courses—54 Credit Hours

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)

- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization—30 Credit Hours

- MHS 7406 Advanced Theories in Counseling (3 credit hours)
- MHS 7801 Advanced Practicum in Counselor Education (3 credit hours)
- MHS 6510 Advanced Group Counseling (3 credit hours)
- MHS 7700 Professional Issues in Counselor Education (3 credit hours)
- MHS 7311 Technology Issues in Counselor Education (3 credit hours)
- MHS 7611 Supervision in Counselor Education (3 credit hours)
- MHS 7808 Practicum in Counseling Supervision (3 credit hours)
- MHS 7340 Advanced Career Development (3 credit hours)
- MHS 6221 Individual Psychoeducational Testing II (3 credit hours)
- MHS 7730 Research Seminar in Counselor Education (3 credit hours)

Dissertation—24 Credit Hours

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Required Internship—6 Credit Hours

- MHS 7840 Internship in Counselor Education (repeatable) (6 credit hours minimum)

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning requirement.

APPLICATION REQUIREMENTS

In addition to general UCF graduate application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's degree in a closely related field and master's level competency in educational research and statistics, three letters of recommendation, a goal statement, and a resumé. A formal interview is required of all applicants and will be scheduled after the College of Education and Human Performance admission requirements are met. Interviews will be the first Thursday in February. Attendance at the program orientation session at 1:00 p.m. on the Thursday before classes begin for the Fall semester of admission is mandatory. Please note, this track has an application deadline of January 15th.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field and master's level competency in educational research and statistics.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- An interview is required. Please refer to the Counselor Education webpage to view the current scheduled interview date and times. Click admission > Dates and deadlines you will be able to view the updated interview date and location information.

Application Deadlines

Counselor Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Margaret Ann Shillingford PhD
Associate Professor
Program Director
margaret.shillingford@ucf.edu
407-823-4753
EDC 322C

Education PhD

Early Childhood

TRACK DESCRIPTION

This track will prepare you with ways to apply your knowledge and skills to prepare you for your field.

CURRICULUM

The Early Childhood track in the Education PhD program requires a minimum of 69 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 15 credit hours of specialization courses, 6 credit hours of independent study, and 24 credit hours of dissertation. All students must also complete the candidacy examination.

Total Credit Hours Required:

69 Credit Hours Minimum beyond the Master's Degree

Required Courses—45 Credit Hours

Core Courses—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record, and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)

    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization Courses—15 Credit Hours

- EEC 7058 Theoretical Foundations of Early Childhood (3 credit hours)
- EEC 7673 Early Childhood: Professional Publishing and Grant Writing (3 credit hours)
- EEC 7055 Advocacy, Public Policy, and Program Evaluation (3 credit hours)
- EEC 7409 Current Trends in Child, Family, and Community Sciences (3 credit hours)
- EEC 7676 Critical Analysis of Early Childhood Research (3 credit hours)

Required Internship—6 Credit Hours

- EEC 7945 Early Childhood: Internship in Teaching and Supervision (3 credit hours)
- EEC 7948 Early Childhood: Internship in Research (3 credit hours)

Dissertation—24 Credit Hours

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.

- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning requirement.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a related field of study.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Writing sample.
- Interview.

Application Deadlines

Early Childhood	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Judit Szente PhD
Associate Professor
Program Director
judit.szente@ucf.edu
407-823-0045
Education 122Q

Education PhD

Elementary Education

TRACK DESCRIPTION

The program permits students to concentrate their doctoral study in either a field of emphasis, such as science, mathematics, literacy and social studies, or to create an interdisciplinary focus, such as mathematics-science or reading-social studies. The program of study is most appropriate for educators who can create, analyze and synthesize educational studies and for educators seeking employment in settings requiring a strong research base. In contrast to the EdD, the doctoral program relies on students who progress through their program of study in cohorts and who are full members of the learning community of the College of Education. The program includes a strong philosophical base, research seminars requiring one-on-one work with faculty members, cluster seminars requiring work with several faculty members in interdisciplinary research projects, and long-term mentoring via supervised internships.

CURRICULUM

The Elementary Education track in the Education PhD program requires a minimum of 69 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 6 credit hours of specialization courses, 12 credit hours of electives, 3-6 credit hours of internship, and 24 credit hours of dissertation. All students must also complete the candidacy examination.

Total Credit Hours Required:

69 Credit Hours Minimum beyond the Master's Degree

Required Courses—30 Credit Hours

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)

- EDF 7415 Latent Variable Modeling in Education (3 credit hours)
- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization—6 Credit Hours

- Philosophical Foundations for Studies in Education (3 credit hours)
- Writing for Professional Publication in Education (3 credit hours)

Elective Courses—12 Credit Hours

Areas of emphasis: four additional courses in one or more areas including Science Education, Literacy Education, Technology Education, or Arts Education with one course from outside the college in a related field of study (12 credit hours minimum).

Dissertation—24 Credit Hours

- EDE 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Required Internship—3-6 Credit Hours

Depending on the student's experiential background, the program of study requires three to six variable credit hours of supervised internships. Often elementary teachers seeking the PhD have served as successful supervising teachers to undergraduate interns. If this is not the case, the adviser may seek to have the doctoral student take three credit hours to serve as a supervised internship coordinator at the university level. Additionally, students interested in long-term goals related to research may want to use the variable credit hours to accumulate a minimum of 250 hours as a supervised intern working for an educational researcher. Most likely, since our doctoral students' career goals will align with the professoriate, students will be required to teach one university course with supervision and feedback from an established professor. The adviser/program coordinator will determine the kind of internship and the number of semester hours needed. These internship experiences are highly valued and set the candidate apart from other applicants as they seek employment at the college and university level.

- EDE 6946 Elementary Education Internship (3-6 credit hours minimum)

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score, taken within the last five years, a master's degree in a closely related field, three letters of recommendation, a goal statement, resumé, writing sample, and interview.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a related field of study, including one Graduate Curriculum course, and master's level competency in educational research and statistics.
- A minimum of 12 credit hours of Graduate Education courses.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Writing sample.
- Interview.
- Elementary certification, with a minimum of three years teaching experience in early childhood, elementary, or middle school.

Application Deadlines

Elementary Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Mike Hynes PhD
Professor
Chair
michael.hynes@ucf.edu
407-823-2005

ED 209D

Education PhD

Exceptional Education

TRACK DESCRIPTION

The Exceptional Education track is a challenging program of study. The program focuses on developing the qualifications to conduct research, implement best practices based on research, and evaluate new programs and projects that serve students with disabilities.

CURRICULUM

The Exceptional Education track in the Education PhD program requires a minimum of 69 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 15 credit hours of specialization courses, 6 credit hours of internship, and 24 credit hours of dissertation. All students must also complete the candidacy examination.

Total Credit Hours Required:

69 Credit Hours Minimum beyond the Master's Degree

Required Courses—39 Credit Hours

Core Courses—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication

Sciences Track students only) (3 credit hours)

Specialization Courses—15 Credit Hours

- EEX 7936 Current Issues/ Trends in Special Education (3 credit hours)
- EEX 7527 Professional Writing/ Grant Writing in Special Education (3 credit hours)
- EEX 7766 Technology Research/ Training in Special Education (3 credit hours)
- EEX 7428 Personnel Preparation: Special Education (3 credit hours)
- EEX 7320 Program Evaluation and Planning in Special Education (3 credit hours)

Dissertation—24 Credit Hours

- EEX 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Internship—6 Credit Hours

- EEX 7865 Internship in College Instruction in Special Education (3 credit hours)
- EEX 7866 Internship in Practicum Supervision in Special Education (3 credit hours)

Specialization in this track must include a minimum of 6 credit hours in professional internship.

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance.Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning requirement.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's degree in a closely related field, three letters of recommendation, a goal statement, resumé, group interview, and a writing sample.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé
- A timed writing sample produced during the interview.
- Group interview with faculty. Current doctoral students may also interview applicants.

Application Deadlines

Exceptional Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Lisa Dieker PhD
Associate Professor
Program Director
ldieker@ucf.edu
407-823-3885
ED 215F

Education PhD

Exercise Physiology

TRACK DESCRIPTION

Students interested in the doctoral program might come from the biological and health-related professions, exercise science, physical education, or athletic training.

CURRICULUM

The Exercise Physiology track in the Education PhD program requires a minimum of 75 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 27 credit hours of specialization courses, and 24 credit hours of dissertation. All students must also complete the candidacy examination.

Total Credit Hours Required:

75 Credit Hours Minimum beyond the Master's Degree

Required Courses—51 Credit Hours

Core Courses—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical

Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization Courses—27 Credit Hours

Students select nine specialization courses from the following list.

- PET 6357C Environmental Perturbation and Human Performance (3 credit hours)
- PET 6363 Dietary and Nutritional Supplementation for Athletic Performance (3 credit hours)
- PET 6366 Exercise, Nutrition and Weight Control (3 credit hours)
- PET 6376 Sport Nutrition (3 credit hours)
- PET 6381 Physiology of Neuromuscular Mechanisms (3 credit hours)
- PET 6388 Cardiovascular Physiology (3 credit hours)
- PET 6389 Physiological Aspects of Sport and Training (3 credit hours)
- PET 6395 Program Design in Strength and Conditioning (3 credit hours)
- PET 6515 Assessment and Evaluation in Sport and Exericse Science (3 credit hours)
- PET 6521 Exercise Physiology Instrumentation (3 credit hours)
- PET 6690 Exercise Prescription for Special Populations (3 credit hours)
- PET 7365 Cardiovascular Dynamics During Exercise (3 credit hours)
- PET 7368 Regulation of Metabolism During Exercise (3 credit hours)
- PET 7387 Exercise Endocrinology (3 credit hours)
- PET 7535 Research and Experimental Design in Exercise Physiology (3 credit hours)
- PET 7939 Advanced Research Seminar (3 credit hours)

Dissertation—24 Credit Hours

- PET 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning requirement.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field and master's level competency in educational research and statistics.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé/vita reflecting relevant experience.
- Writing sample.

Application Deadlines

Exercise Physiology	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Jay Hoffman PhD
Professor
Chair
jay.hoffman@ucf.edu
407-823-2595
ED 209B

Education PhD

Higher Education

TRACK DESCRIPTION

The Higher Education track in the Education PhD program is designed for applicants who have extensive experience as administrators or staff in postsecondary institutions who want to pursue careers as scholars and leaders. A doctoral degree in this track will broaden the analytical skills necessary to contribute to the advancement of the field of higher education through research, administration and teaching. The students in this program are considered future leaders interested in intensive study of the organizational and policy issues influencing the diverse sector comprising contemporary American postsecondary education.

CURRICULUM

The Higher Education track in the Education PhD program requires 75 credit hours beyond the master's degree. The curriculum includes 24 credit hours of core courses, 27 credit hours of specialization courses, and 24 credit hours of dissertation.

Total Credit Hours Required:

75 Credit Hours Minimum beyond the Master's Degree

Required Courses—51 Credit Hours

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization—27 Credit Hours

- EDH 6046 Diversity in Higher Education (3 credit hours)
- EDH 7401 Higher Education and Public Policy (3 credit hours)
- EDH 7405 Legal Issues in Higher Education (3 credit hours)
- EDH 7934 Higher Education Literature, Research and Professional Writing (3 credit hours)
- EDH 7066 Higher Education: Philosophical/Historical Perspectives (3 credit hours)
- EDH 7508 Finance in Higher Education (3 credit hours)
- EDH 7665 Higher Education Leadership (3 credit hours)
- EDH 7636 Organizational Theory and Practices in Higher Education (3 credit hours)
- EDH 7631 Managing Change, Conflict and Stability in Higher Education (3 credit hours) or one of the following approved electives:
    - EDH 7207 Curriculum, Instruction and Distance Learning in Higher Education (3 credit hours)
    - EDH 7366 Assessment Practices in Higher Education (3 credit hours)
    - EDH 7208 International Perspectives of Higher Education (3 credit hours)

Candidacy Examination—0 Credit Hours (Required for Advancement to Candidacy [Dissertation hours])

Candidacy examinations will be scheduled near the tenth week of the fall and spring semesters; summer exams will be scheduled for the sixth week of the term. The exams are:

- Part 1. Written examination: Higher education (five hours)
- Part 2. Written examination: Area of specialization (three hours)
- Part 3. Oral examination (one hour)

Evidence of the following are required to be eligible to complete the doctoral comprehensive examination in the Education PhD program, Higher Education track:

- Currently enrolled in the university during the semester any comprehensive examination is taken.
- Submission of an approved program of study (overall GPA 3.0 or greater on all graduate work).
- Completion of most course work. (Students may only take exams when only 2-3 semesters of course work remain. This statement does not refer to dissertation hours.)
- In consultation with program faculty, the dissertation advisory committee is formed, paperwork filed, and approved. (Committee consists of four members: a minimum of three approved CEDHP graduate faculty and one approved graduate faculty scholar or CEDHP faculty.)
- Submission of an approved doctoral comprehensive examination application by the stated deadline.
- Fulfill any program deadlines for submitting comprehensive examination content-related materials (topics, questions, etc.) to the program coordinator by the stated deadline. (See program website for details HEPS: http://education.ucf.edu/highered/).

Candidacy

Candidacy is the stage of doctoral studies when students focus exclusively on planning, researching and writing their proposal and dissertation. To enter candidacy for the Education Ph.D. program, Higher Education & Policy Studies track, students must have an overall 3.0 GPS on all graduate work included in the planned program and pass all required examinations. In addition, evidence of the following are required to be admitted to candidacy and enroll in dissertation hours at least one week before the first day of classes for which the students wishes to enroll in dissertation hours:

- Submission of an approved program of study.
- Completion of all course work, except for dissertation hours.
- Successful completion of all parts of the candidacy examinations.
- In consultation with program faculty, the dissertation advisory committee is formed, paperwork filed, and approved. (Committee consists of four members: a minimum of three approved CEDHP graduate faculty and one approved graduate faculty scholar or CEDHP faculty.)

Note: Once students enter Candidacy, they must enroll in a minimum of three dissertation hours (see below) every semester (including summers), until they graduate from the program.

Dissertation—24 Credit Hours

Registration for dissertation hours is not permitted until the student is admitted to Candidacy.

- EDH 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must work with their doctoral adviser/major professor to prepare a proposal and present and defend the proposal to the dissertation committee. Once the proposal is completed and approval is secured from the UCF Institutional Review Board (IRB), students conduct research and submit and defend the final research dissertation to their dissertation committee.

Required Documentation During Dissertation Stage

All items listed are necessary to fulfill the requirements to graduate.

- Application to Defend Dissertation Proposal
- Dissertation Proposal Approval
- Application for IRB Approval of Research
- Defense Dissertation Announcement
- Dissertation Approval
- Application to Graduate
- All necessary requirements of the College of Graduate Studies for graduation

INDEPENDENT LEARNING

The dissertation satisfies the independent learning experience.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's degree in a closely related field, three letters of recommendation, a goal statement, resumé, and a writing sample.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- Evidence of a minimum of one year full-time or two years part-time professional higher education work experience. Evidence may include, but not be limited to, any one of the following: work experience listed on

the resume/CV with confirmation email/telephone, letter of reference, or copies of annual reviews, etc.(Please note that graduate assistantships, teaching assistantships, internships and practica do not fulfill this requirement.)

- One official transcript (in a sealed envelope) from each college/university attended.
- Minimum GPA of 3.0 (on 4.0 scale) in the last 60 credit hours of undergraduate degree.
- Minimum GPA of 3.0 (on 4.0 scale) for all graduate work at the time of application.
- A master's degree in a closely related field from a regionally accredited institution.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation (electronic or hard copy).
- Goal statement. (Describe the following: preparedness for the program, career goals related to program, and potential area of research interest in the program.)
- Resumé/CV.
- Submit one of the following writing samples: research paper, journal article, grant proposal, policy analysis, or program evaluation.

Application Deadlines

Higher Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Kathleen King EdD
Professor
Program Director
HEPS@ucf.edu
407-823-4751
ED 220E

Education PhD

Instructional Design and Technology

TRACK DESCRIPTION

The focus is on the design of conventional in-class, online and hybrid training and educational programs, and the application of appropriate instructional technologies to facilitate adult learner. For more information about the Instructional Design and Technology track, visit education.ucf.edu/insttech.

CURRICULUM

The Instructional Design and Technology track in the Education PhD program requires a minimum of 69 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 9 credit hours of specialization courses, 9 credit hours of electives, 3 credit hours of internship, and 24 credit hours of dissertation. All students must also complete the candidacy examination.

Total Credit Hours Required:

69 Credit Hours Minimum beyond the Master's Degree

Required Courses—33 Credit Hours

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization—9 Credit Hours

- IDS 6504 Adult Learning (3 credit hours)
- IDS 6503 International Trends in Instructional Systems (3 credit hours)
- EME 7634 Advanced Instructional Systems Design (3 credit hours)

Elective Courses—9 Credit Hours

Cognate or elective; approved by adviser (9 credit hours minimum)

Dissertation—24 Credit Hours

- EME 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Required Internship—3 Credit Hours

- EME 7942 Doctoral Internship in Educational Technology (3 credit hours minimum)

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Submission and completion of approved program of study, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Satisfactory progress toward the independent learning requirements as evidenced by the annual accomplishments and activities report.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

INDEPENDENT LEARNING

During their program of study, PhD students are required to meet the following requirements for independent learning to enter candidacy, including:

- Submitting a manuscript that is deemed appropriate by at least one program faculty member for publication in a peer-reviewed journal.
- Presenting research in at least one international, national or state conference.
- Presenting at university and/or college research symposiums annually.
- Providing service to professional organization, community partner, and/or program.
- Documenting and presenting independent learning accomplishments and activities along with development of an individual research agenda deemed satisfactory by at least two or more program faculty on an annual basis.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's degree in a closely related field, three letters of recommendation, a goal statement, resumé, and a writing sample.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.
- Writing sample of a ten to twenty page original paper on any topic.

Application Deadlines

Instructional Design and Technology	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Atsusi Hirumi PhD
Associate Professor
Program Director
hirumi@ucf.edu
ED 320-F

Education PhD

Mathematics Education

TRACK DESCRIPTION

Doctoral students in the track engage in undergraduate teaching, participate in research activities with faculty, experience internships, and interact with the nationally acclaimed Lockheed Martin/UCF Teaching Academy for Mathematics and Science.

CURRICULUM

The Mathematics Education track in the Education PhD program requires a minimum of 72 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 9 credit hours of specialization courses, 12 credit hours of electives, 3 credit hours of internship, and 24 credit hours of dissertation. All students must also complete the candidacy examination.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Master's Degree

Required Courses—33 Credit Hours

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:

- IDS 7938 Research Cluster Seminar (3 credit hours)
- EDF 7405 Quantitative Methods II (3 credit hours)
- EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
- EDF 7415 Latent Variable Modeling in Education (3 credit hours)
- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization—9 Credit Hours

- MAE 7640 History of Mathematics Education (3 credit hours)
- MAE 7795 Seminar on Research in Mathematics Education (6 credit hours)

Elective Courses—12 Credit Hours

- Course work in elementary mathematics education (3 credit hours)
- Course work in secondary mathematics education (3 credit hours)
- Course work in mathematics or mathematics education (6 credit hours)

Dissertation—24 Credit Hours

- MAE 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Internship—3 Credit Hours

- MAE 7945 Internship in Mathematics Education (3 credit hours minimum)

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning requirement.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's degree in a closely related field and a master's level competency in educational research and statistics, three letters of recommendation, a goal statement, and a résumé.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field and master's level competency in educational research and statistics.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.

Application Deadlines

Mathematics Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Juli K. Dixon PhD
Professor
Program Director
juli.dixon@ucf.edu
ED 123F

Education PhD

Methodology, Measurement and Analysis

TRACK DESCRIPTION

Four major areas are encompassed in the Methodology, Measurement, and Analysis program: quantitative research, qualitative research, measurement, and program evaluation.

CURRICULUM

The Methodology, Measurement and Analysis track in the Education PhD program requires a minimum of 75 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 18 credit hours of specialization courses, 6 credit hours of electives, 3 credit hours of internship, and 24 credit hours of dissertation. All students must also complete the candidacy examination.

Total Credit Hours Required:

75 Credit Hours Minimum beyond the Master's Degree

Required Courses—42 Credit Hours

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
    - IDS 7938 Research Cluster Seminar (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education ;(3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization—18 Credit Hours

- EDF 7427 Psychometrics (3 credit hours)
- EDF 7405 Quantitave Methods II (3 credit hours)
- EDF 7476 Advanced Research Methods (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7415 Latent Variable Modeling in Education (3 credit hours)

Electives—6 Credit Hours

- EDF 6447 Development and Validation of Educational Tests and Measures (3 credit hours)
- EDF 6464 Mixed Methods for Evaluation in Educational Settings (3 credit hours)
- EDF 6486 Research Design in Education (3 credit hours)
- EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
- EDG 6285 Evalutation of School Programs (3 credit hours)
- EDF 7473 Ethnographic Research in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)

- EDF 7479 Applications of Technology in Qualitative Research, Data, Organization, and Analysis (3 credit hours)

Dissertation—24 Credit Hours

- EDF 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Internship—3 Credit Hours

- EDF 7XXX Internship (3 credit hours)

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Writing Sample.
- Interview.

Application Deadlines

Methodology, Measurement and Analysis	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Stephen Sivo PhD
Professor
Program Director
Stephen.Sivo@ucf.edu
407-823-4147
ED 222Q

Education PhD

Reading Education

TRACK DESCRIPTION

The program provides for an area of advanced study in the field of reading and a concentration in a closely related field. The program includes a strong research base through the research core and specialization course work and an internship during which a candidate gains professorial experience.

Students are required to have the equivalent of the Master of Education in Reading degree, 21 hours of graduate reading education credit, prior to entering the program. In the event that a student does not have 21 hours of graduate reading education credit, the student can be admitted to the program, but will be required to complete the 21 hours in addition to the required program hours.

CURRICULUM

The Reading Education track in the Education PhD program requires a minimum of 78 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 15 credit hours of specialization courses, 9 credit hours of electives, 3-6 credit hours of internship, and 24 credit hours of dissertation. All students must also complete the candidacy examination.

Total Credit Hours Required:

78 Credit Hours Minimum beyond the Master's Degree

Required Courses—39 Credit Hours

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)

    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization—15 Credit Hours

- RED 7797 Theoretical Processes of Reading Comprehension (3 credit hours)
- RED 7743 Reading and Writing Processes (3 credit hours)
- RED 7648 Analysis and Evaluation of Trends and Issues in Literacy Education (3 credit hours)
- RED 7745 Research in Reading Education Seminar (3 credit hours)
- RED 7697 Literacy for the Twenty-First Century (3 credit hours)

Elective Courses—9 Credit Hours

Students choose a minimum of 9 credit hours of elective courses from a concentration in a related field, such as Communication Sciences and Disorders, Exceptional Student Education, TESOL, Language Arts Education, Children's/Adolescent Literature.

Dissertation—24 Credit Hours

- RED 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present to the dissertation committee, and defend the final research submission with the dissertation committee.

Internship—3-6 Credit Hours

- RED 7947 Internship in Reading Education (3 credit hours minimum) (repeat 1-2 times)

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 grade point average on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

INDEPENDENT LEARNING

The dissertations fulfills the independent learning requirement.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score, taken within the last five years, a master's degree in a closely related field with 21 credit hours of reading education, three letters of recommendation, a goals statement, resumé, writing sample, and interview.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a related field of study, including one Graduate Curriculum course, and master's level competency in educational research and statistics.
- A minimum of 21 credit hours of graduate reading education courses.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Writing sample.
- Interview.

Application Deadlines

Reading Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Vicky Zygouris-Coe PhD
Assistant Professor
Program Director
Vassiliki.Zygouris-Coe@ucf.edu
407-823-0386
ED 315

Education PhD

Science Education

TRACK DESCRIPTION

Doctoral students in this track engage in research activities with an interdisciplinary faculty, experience internships, and interact with the nationally acclaimed Lockheed Martin/UCF Teaching Academy for Mathematics and Science.

CURRICULUM

The Science Education track in the Education PhD program requires a minimum of 78 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 15 credit hours of specialization courses, 9 credit hours of electives, 3-6 credit hours of internship, and 24 credit hours of dissertation. All students must also complete the candidacy examination.

Total Credit Hours Required:

75 Credit Hours Minimum beyond the Master's Degree

Required Courses—42 Credit Hours

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)

- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
- SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization—18 Credit Hours

- SCE 7746 Teaching Theory and Research in Science Education (3 credit hours)
- SCE 7145 Design of Post Secondary Science Curriculum (3 credit hours)
- SCE 7242 Assessment in Science Teaching, Learning and Research (3 credit hours)
- SCE 7864 Science, Technology and Society (3 credit hours)
- SCE 7935 Special Seminar Professional Writing/Grant Writing in Science Education (3 credit hours)
- SCE 7146 Professional Issues in Science Education (3 credit hours)

Electives—3 Credit Hours

- Additional specialization electives (3 credit hours minimum)

Dissertation—24 Credit Hours

- SCE 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Internship—6 Credit Hours

- SCE 7942 Internship/Practicum in Science Education (K-12 or Community College) (6 credit hours minimum: 2 semesters, 3 hours each of internship)

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note that there may be variations in length of exam time and content based on the respective requirements of each track.

INDEPENDENT LEARNING

The dissertation serves as the independent learning experience.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's degree in a closely related field, three letters of recommendation, a goal statement, resumé, and an interview.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement.
- Resumé.
- Interview.

Application Deadlines

Science Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Malcolm Butler PhD
Associate Professor
Program Director
malcolm.butler@ucf.edu
407-823-3272
ED 322-T

Education PhD

Social Science Education

TRACK DESCRIPTION

The program assists students in providing options to careers in preparing social science teachers, teaching post-secondary social science (history, political science, economics, etc.), and conducting research activities in social science education. Doctoral students in the track engage in research activities with an interdisciplinary faculty, experience internships, and interact with various social science educators and social science experts. Throughout this program, students are mentored by experienced and successful university social science education faculty. Based on the students' previous graduate course work, students may be required to complete additional graduate social science education (SSE) courses and/or graduate content courses beyond the minimum requirements.

CURRICULUM

The Social Science Education track in the Education PhD program requires a minimum of 69 credit hours beyond the master's degree. Students must complete 24 credit hours of core courses, 18 credit hours of specialization courses, 3 credit hours of internship, and 24 credit hours of dissertation. All students must also complete the candidacy examination.

Total Credit Hours Required:

69 Credit Hours Minimum beyond the Master's Degree

Required Courses—42 Credit Hours

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Seminar in Educational Research (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization—18 Credit Hours

- SSE 7740 History of Social Studies Education Seminar (3 credit hours)
- SSE 7796 Research in Social Science Education Seminar (3 credit hours)
- SSE 7797 Content and Program Analysis in Social Science Education (3 credit hours)
- SSE 7700 Critical Issues in Social Studies Teacher Education (3 credit hours)
- Social Science Education (SSE) Electives (6 credit hours; must be approved by adviser)

Dissertation—24 Credit Hours

- SSE 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Internship—3 Credit Hours

- SSE 7947 Internship in Social Science Education (3 credit hours minimum)

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser. The associate dean for graduate studies and research must be notified of the date and location of the exam 30 days in advance. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations.

- Research in the Specialization—8-hour written examination.
- Specialization—3-hour oral examination.

Please note there may be variations in length of exam time and content based upon the respective requirements of each track.

INDEPENDENT LEARNING

The dissertation fulfills the independent learning requirement.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's degree, three letters of recommendation, a letter of intent, resumé/vita, and writing sample.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Goal statement / letter of intent.
- Resumé / vita reflecting relevant experience.
- Writing sample.

Eligibility for admission to a doctoral program should be limited to superior students who have demonstrated intellectual ability, high achievement, and adequate preparation for advanced study and research in a chosen field.

Application Deadlines

Social Science Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

William Russell PhD
Associate Professor
Program Director
russell@ucf.edu
407-823-4345
Education 115J

Education PhD

Teaching English to Speakers of Other Languages

TRACK DESCRIPTION

Combining the interdisciplinary expertise of faculty in two Colleges, the PhD Track in TESOL offers students in-depth experiences in the research, theory, and practice of TESOL, as well as flexibility in selecting a complementary cognate that meets their professional goals.

CURRICULUM

The Teaching English to Speakers of Other Languages (TESOL) track in the Education PhD program requires at least 72 credit hours of study beyond the master's degree. The curriculum includes 24 credit hours of core courses, 15 credit hours of TESOL specialization courses, 9 credit hours of cognate courses, and 24 credit hours of dissertation. All students must also complete the candidacy examination.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Master's Degree

Prerequisites

- TSL 6250 Applied Linguistics in ESOL
- TSL 6440 Issues in TESOL Assessment
- TSL 6642 Issues in Second Language Acquisition
- TSL 5345 ESOL Methods or TSL 5085 Teaching Language Minority Students in K-12
- EDF 6401 Statistics for Educational Data

Required Courses—48 Credit Hours

Core—24 Credit Hours

- IDS 7501 Issues and Research in Education (3 credit hours)
- IDS 7500 Research Seminar (variable credit and repeatable, 6 credit hours)
- EDF 7475 Qualitative Research Methods in Education (3 credit hours)
- EDF 7403 Quantitative Research Methods in Education (3 credit hours)
- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- IDS 7502 Case Studies in Research Design (3 credit hours) or one of the following approved research electives:
    - EDF 7406 Multivariate Statistics in Education (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
    - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
    - EDF 7473 Ethnography in Educational Settings (3 credit hours)
    - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
    - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
    - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours) or one of the following approved research electives:
    - IDS 7938 Research Cluster Seminar (3 credit hours)
    - EDF 7405 Quantitative Methods II (3 credit hours)
    - EDF 7410 Application of Nonparametric and Categorical

Data Analysis in Education (3 credit hours)
  - EDF 7415 Latent Variable Modeling in Education (3 credit hours)
  - EDF 7473 Ethnography in Educational Settings (3 credit hours)
  - EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
  - EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)
  - SPA 7495 Doctoral Seminar II: Spoken and Written Language Disorders (Communication Sciences Track students only) (3 credit hours)

Specialization—15 Credit Hours

Students are required to take the following five courses:

- TSL 6643 Diachronic Analysis of Second Language Acquisition Processes (3 credit hours)
- TSL 6379 Second Language Literacy (3 credit hours)
- TSL 6600 Second Language Vocabulary Acquisition (3 credit hours)
- TSL 6252 Sociolinguistics for ESOL (3 credit hours)
- TSL 7006 Second Language Teacher Education (3 credit hours)

Cognate—9 Credit Hours

A minimum of 9 credit hours of cognate courses must be approved by the adviser and graduate program director. Possible cognates include Communication Sciences and Disorders, Community College Teaching, Exceptional Education, Global and Comparative Education, Multicultural Education, Instructional Technology, Program Administration, Reading, and other related areas.

Dissertation—24 Credit Hours

- TSL 7980 Dissertation Research (24 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Examinations

A qualifying examination will be required during the first year of study as an intake, diagnostic tool to determine student proficiency in TESOL. A written candidacy examination will be required to be admitted to candidacy and will normally occur at the completion of course work.

Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Additional Program Requirement:

Students must have completed a minimum of two college-level courses in a foreign language or basic proficiency in a foreign language as measured by the American Council on the Teaching of Foreign Languages (ACTFL) oral proficiency interview (OPI) or other assessment approved by the program faculty before completion of 36 hours of study. Non-native speakers of English may use their native language to meet this requirement. This requirement may be satisfied prior to admission but must be satisfied prior to candidacy.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a closely related field.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation no more than one year old from people who can attest to your potential and ability for doctoral level work.
- Goal statement.
- Resume.
- A master's thesis or two original papers related to graduate coursework.

Application Deadlines

Teaching English to Speakers of Other Languages	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Jan 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Jan 15		

CONTACT INFO

Joyce Nutta PhD
Associate Professor
Program Director
joyce.nutta@ucf.edu
407-823-4341
ED 122M

Educational Leadership EdD

- Executive
- Higher Education

PROGRAM DESCRIPTION

The **Higher Education** track is appropriate for students who are committed to advancing their leadership capabilities in college and university settings. The Program of Study has been designed to broaden the administrative knowledge and skills of higher education professionals who bring to the program a prior discipline specialization. Students admitted to the program are typically employed in teaching, research and administrative positions in universities, colleges, community colleges and education related institutions and organizations. The Higher Education track requires completion of a dissertation.

The **Executive track in Educational Leadership EdD**. The Executive EdD is appropriate for students who are committed to advancing their leadership opportunities and capabilities in PK-12 and other organizational settings. Students admitted to the program are typically employed in teaching and administrative positions in elementary and secondary schools, as well as other educational agencies and organizations. Focus areas include: political and organizational theory, leadership, systems theory, planning and evaluation, school law and finance, data-based decision making, communications, instructional leadership, human resource management, program analysis and evaluation. Educational Leadership certification is not included in this program.

The program is taught in a lock-step cohort-based format to be convenient to those who are working in teaching and administrative positions. The Executive track requires completion of a client-based field study.

CURRICULUM

Students must choose one of either two tracks in the Educational Leadership program: the Executive Track or Higher Education Track. The Executive track requires a minimum of 54 credit hours beyond the master's degree, including 6 credit hours of a client-based Doctoral Field Study and at least 15 credit hours of Dissertation in Practice. The Higher Education track requires 63 minimum credit hours based on evidence of a master's degree with an emphasis related to the study of higher education as a field of inquiry.

Total Credit Hours Required:

54-63 Credit Hours Minimum beyond the Master's Degree

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements. Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

Walter Doherty PhD
Assistant Professor
Program Director
wjdohert@ucf.edu
407-823-1153
ED 222F

Educational Leadership EdD

Executive

TRACK DESCRIPTION

The Executive EdD is appropriate for students who are committed to advancing their leadership opportunities and capabilities in PK-12 and other organizational settings. Students admitted to the program are typically employed in teaching and administrative positions in elementary and secondary schools, as well as other educational agencies and organizations. Focus areas include: political and organizational theory, leadership, systems theory, planning and evaluation, school law and finance, data-based decision making, communications, instructional leadership, human resource management, program analysis and evaluation Educational Leadership certification is not included in this program.

CURRICULUM

The Executive track requires a minimum of 54 credit hours beyond the master's degree, including 6 credit hours of a client-based Doctoral Field Study and at least 15 credit hours of Dissertation in Practice. The plan of study for the Executive track in the Educational Leadership EdD is arranged as a lock-step cohort-based program to facilitate scheduling for those who are employed in teaching and administrative positions. Details about this program are found in the Executive Handbook.

Total Credit Hours Required:

54 Credit Hours Minimum beyond the Master's Degree

Required Courses—39 Credit Hours

Core—24 Credit Hours

- EDA 7101 Organizational Theory in Education (3 credit hours)
- EDA 7192 Educational Leadership (3 credit hours)
- EDA 7195 Politics, Governance, and Financing of Educational Organizations (3 credit hours)
- EDA 7205 Planning, Research, and Evaluation Systems in Educational Administration (3 credit hours)
- EDA 7225 Advanced Legal Studies in Education (3 credit hours)
- EDA 7215 Community Outreach for Educational Leaders (3 credit hours)
- EDA 7193 Instructional Leadership (3 credit hours)
- EDA 7224 Human Resource Development in Educational Organizations (3 credit hours)

Research Methods—9 Credit Hours

- EDF 7471 Research in Educational Leadership I (3 credit hours)
- EDF 7407 Research in Educational Leadership II (3 credit hours)
- EDF 7408 Research in Educational Leadership III (3 credit hours)

Doctoral Field Study—6 Credit Hours

Doctoral students will conduct a dissertation in practice on an issue or problem of practice during the last four semesters of the program. The proposal is developed during the first 3 semester hours of EDA 7943 and implemented during the second semester.

- EDA 7943 Doctoral Field Study (6 credit hours)

Dissertation in Practice—15 Credit Hours

In EDA 7987 Dissertation in Practice students conduct scholarly research on a complex problem of practice in an education organization. The dissertation in practice will have an introduction and its essential components, literature review, methodology, findings, and discussion and conclusions.

- EDA 7987 Dissertation in Practice (15 credit hours minimum)

Candidacy

To enter candidacy for the Executive track in the Educational Leadership EdD program, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required milestones.

The following are required to be admitted to candidacy:

- Completion of an on-demand writing whitepaper to be completed prior to summer semester Year 1.
- Completion of a dissertation in practice proposal accepted during the summer semester of Year 2.
- Completion of all course work, except for the Doctoral Field Study.
- Submission of an approved program of study.

INDEPENDENT LEARNING

The doctoral field study provides the independent learning experience by having students a study on an issue or problem of practice in education.

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide an official transcript, competitive GRE score, three letters of recoomendation, a résumé and a goal statement.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Master's degree in a closely related field.
- Official, competitive GRE score, taken within the last five years.
- Three letters of recommendation.
- Resume.
- Goal statement.

Admission to the program is once per year, fall term only, with students paced in a cohort sequence.

Application Deadlines

Executive	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	May 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

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Walter Doherty PhD
Assistant Professor
Program Director
wjdohert@ucf.edu
407-823-1153
ED 222F

Educational Leadership EdD

Higher Education

TRACK DESCRIPTION

The Higher Education track in the Educational Leadership EdD program has been designed to broaden the administrative knowledge and skills of higher education professionals who bring to the program a prior discipline specialization. Students admitted to the program are typically employed in teaching, research and administrative positions in community colleges and universities or education related agencies.

CURRICULUM

Students pursuing the Higher Education track in the Educational Leadership EdD program are typically employed in two- or four-year colleges or universities. Their programs of study require them to complete a minimum of 36 credit hours of specified core and specialization courses plus two elective courses. Students must also complete 12 credit hours in research methods and 15 credit hours of dissertation. The 63 minimum credit hours is required beyond the master's degree, with an emphasis related to the study of higher education as a field of inquiry. Details about the administration of this program can be found in the Higher Education Handbook.

Total Credit Hours Required:

63 Credit Hours Minimum beyond the Master's Degree

Required Courses—36 Credit Hours

Core—18 Credit Hours

- EDH 6046 Diversity in Higher Education (3 credit hours)
- EDH 7040 Research on the College Student (3 credit hours)
- EDH 7401 Higher Education and Public Policy (3 credit hours)
- EDH 7631 Managing Change, Conflict and Stability in Higher Education (3 credit hours)
- EDH 7934 Higher Education Literature, Research and Professional Writing Seminar (3 credit hours)
- EDH 7665 Higher Education Leadership (3 credit hours)

Specialization—12 Credit Hours

- EDH 7405 Legal Issues in Higher Education (3 credit hours)
- EDH 7066 Higher Education: Philosophical/Historical Perspectives (3 credit hours)
- EDH 7508 Finance in Higher Education (3 credit hours)
- EDH 7636 Organizational Theory and Practices in Higher Education (3 credit hours)

Research Methods—12 Credit Hours

Students take these three required research courses:

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 7403 Quantitative Foundations of Educational Research (3 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)

Choose a fourth research course from among those listed below.

- EDF 7463 Analysis of Survey, Record and Other Qualitative Data (3 credit hours)
- EDF 6464 Mixed Methods for Evaluation in Educational Settings (3 credit hours)
- EDF 7405 Quantitative Methods II (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours)
- EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
- EDF 7415 Latent Variable Modeling in Education (3 credit hours)
- EDF 7473 Ethnography in Educational Settings (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7479 Applications of Technology in Qualitative Research: Data, Organization and Analysis (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)

Elective Courses—6 Credit Hours

Choose only two courses from the list below.

- EDH 6047 Theories of College Student Development (3 credit hours)
- EDH 6105 Retention Strategies in Colleges and Universities (3 credit hours)

- EDH 7366 Assessment Practices in Higher Education (3 credit hours)
- EDH 7409 Legal Issues in Higher Education II (3 credit hours)
- EDH 7638 Advanced Seminar in Higher Education (3 credit hours, may be repeated one time)
- EDH 7208 International Perspectives of Higher Education (3 credit hours)
- EDH 7207 Curriculum, Instruction and Distance Learning in Higher Education (3 credit hours)

Candidacy Examination—0 Credit Hours (Required for Advancement to Candidacy [Dissertation hours])

Candidacy examinations will be scheduled near the tenth week of the fall and spring semesters; summer exams will be scheduled for the sixth week of the term. The exams are:

- Part 1. Written examination: Higher education (five hours)
- Part 2. Written examination: Area of specialization (three hours)
- Part 3. Oral examination (one hour)

Evidence of the following are required to be eligible to complete the doctoral comprehensive examination in the Educational Leadership EdD program, Higher Education track:

- Currently enrolled in the university during the semester any comprehensive examination is taken.
- Submission of an approved program of study (overall GPA 3.0 or greater on all graduate work).
- Completion of most course work. (Students may only take exams when only 2-3 semesters of course work remain. This statement does not refer to dissertation hours.)
- In consultation with program faculty, the dissertation advisory committee is formed, paperwork filed, and approved. (Committee consists of four members: a minimum of three approved CEDHP graduate faculty and one approved graduate faculty scholar or CEDHP faculty.)
- Submission of an approved doctoral comprehensive examination application by the stated deadline.
- Fulfill any program deadlines for submitting comprehensive examination content-related materials (topics, questions, etc.) to the program coordinator by the stated deadline. (See program website for details: education.ucf.edu/highered/)

Candidacy

Candidacy is the stage of doctoral studies when students focus exclusively on planning, researching and writing their proposal and dissertation. To enter candidacy for the Educational Leadership EdD program, Higher Education track, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. In addition, evidence of the following are required to be admitted to candidacy and enroll in dissertation hours at least one week before the first day of classes for which the student wishes to enroll in dissertation hours:

- Submission of an approved program of study.
- Successful completion of all course work, except for dissertation hours.
- Successful completion of all parts of the candidacy examination.
- In consultation with program faculty, the dissertation advisory committee is formed, paperwork filed, and approved. (Committee consists of four members: a minimum of three approved CEDHP graduate faculty and one approved graduate faculty scholar or CEDHP faculty.)

NOTE: Once students enter Candidacy, they must enroll in a minimum of three dissertation hours (EDH 7980) every semester (including summers), until they graduate from the program.

Dissertation—15 Credit Hours

Registration for dissertation hours is not permitted until the student is admitted to Candidacy.

- EDH 7980 Dissertation Research (15 credit hours minimum)

Doctoral students must work with their doctoral adviser/major professor to prepare a proposal and present and defend the proposal to the dissertation committee. Once the proposal is completed and approval is secured from the UCF Institutional Review Board (IRB), students conduct research and submit and defend the final research dissertation to their dissertation committee.

Required Documentation During Dissertation Stage:

All items listed are necessary to fulfill the requirements to graduate.

- Application to Defend Dissertation Proposal
- Dissertation Proposal Approval
- Application for IRB Approval of Research
- Defense Dissertation Announcement
- Dissertation Approval
- Application to Graduate
- All necessary requirements of the College of Graduate Studies for graduation

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide an official transcript, competitive GRE scores, three letters of recommendation, a resumé, and a goal statement. An interview might be required and relevant experience in the work setting of colleges and universities is desired. This track admits once per year in the fall term only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Minimum GPA of 3.0 (on 4.0 scale) in the last 60 credit hours of undergraduate degree.
- Master's degree from a regionally accredited institution.
- Minimum GPA of 3.0 (on 4.0 scale) for all graduate work at the time of application.
- Official, competitive GRE score, taken within the last five years.
- Three letters of recommendation (electronic or hard copy).
- Resumé/CV.
- Goal statement. (Describe the following: preparedness for the program, career goals related to the program, and potential area of research interest in the program.)
- Evidence of a minimum of one year full-time or two years part-time professional higher education work experience. Evidence may include, but not be limited to, any one of the following: work experience listed on the resume/CV with confirmation email/telephone, letter of reference, or copies of annual reviews, etc.. (Please note that graduate assistantships, teaching assistantships, internships and practica do not fulfill this requirement.)
- An interview might be required.

Application Deadlines

Higher Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Mar 20		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Mar 1		

CONTACT INFO

Kathleen King EdD
Professor
Program Director
HEPS@ucf.edu
407-823-4751
ED 220E

Electrical Engineering PhD

PROGRAM DESCRIPTION

The Doctor of Philosophy in Electrical Engineering is primarily intended for students with a master's degree in Electrical Engineering or a closely related discipline who wish to pursue a career in research or academia. Specializations include Communications, Digital Signal Processing/Image Processing, Controls and Robotics, Electromagnetics, Electro-Optics, Photonics, Power Electronics and Electronics, and Solid-State/Microelectronics.

Research interests of the Electrical Engineering faculty include antennas, microwave and millimeter circuits/devices, communication systems, digital signal/image processing, power electronics, electronic circuits, IFF devices, electromagnetic theory, radar and microwave remote sensing, speech processing, VLSI design, spread spectrum systems, SAW and ACT devices, spectral estimation, solid state device modeling and computer-aided design (CAD) techniques, communication networks, integrated services digital networks, neural networks, systems and controls, robotics, robust control, computer control, microelectronics, semiconductors, thin films, power system stability, bipolar device modeling, solid state lasers, optical propagation, fiber optics, optical signal processing, laser-induced damage, optical testing, diffractive optics, phase conjunction, infrared detectors, Fourier optics, lens design, and nonlinear optics.

CURRICULUM

The Electrical Engineering PhD degree requires a minimum of 72 credit hours beyond the bachelor's degree. Of these 72 hours, a minimum of 36 credit hours must be formal coursework, exclusive of independent study coursework. A minimum of 15 credit hours with up to a maximum of 24 credit hours of dissertation hours can be credited toward the degree. No more than 12 credit hours of Independent Study are allowed. The remaining hours can be a combination of formal coursework and/or pre-candidacy doctoral research.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Formal coursework required is 36 credit hours, exclusive of independent study and research. A minimum of 15 credit hours of dissertation hours are required. All other credit hours will be determined with a faculty adviser. Students admitted with an earned master's degree may request to have up to 30 of those credit hours counted toward their doctoral program. The student's doctoral adviser in conjunction with the graduate office will determine the precise number of hours to be counted subject to Graduate Studies regulations.

The Program of Study (POS) form must be approved by an adviser in the selected specialization area no later than the end of the second semester after admission. The program of study must meet all the university requirements specified in the graduate catalog. Details about this program are located in the Electrical Engineering PhD Handbook.

Articulation Courses

Undergraduate articulation courses are required to be completed prior to admission for students who do not hold a Bachelor of Science degree in Electrical Engineering. In particular, the articulation courses specified below, plus all of the prerequisite string which any of them require, must be completed prior to admission. Grades of "B" or higher must be obtained in each articulation course specified below. Articulation courses are not eligible for inclusion on a graduate Program of Study.

- EEL 3123C Network and Systems
- EEE 3307C Electronics I
- EEL 3470 Electromagnetic Fields
- EEL 3552 Signal Analysis and Communications
- EEE 3350 Semiconductor Devices I

In addition, choose one of the following:

- EEL 3657 Linear Control Systems
- EEE 4309C Electronics II
- EEL 4750 Digital Signal Processing Fundamentals

Required Courses—36 Credit Hours

- Suggested courses listed below.

Elective Courses—12-21 Credit Hours

- May include formal coursework, directed research hours, doctoral research hours, dissertation research, and no more than 12 credit hours of Independent Study.
- Suggested courses listed below.

Suggested Courses for Doctoral Program

The Electrical Engineering Program supports a number of specialization areas. These technical areas are (in alphabetical order): Electromagnetics and Optics (EO), Signal Processing and Systems (SPS), and Micro-Systems and Nano-Systems (MNS). The Micro-Systems and Nano-Systems area covers the typical Electrical Engineering topic areas of Electronics, Power Electronics and Micro-Electronics, while the Signal Processing and Systems area covers the typical electrical topic areas of communications, controls, and signal processing. Please contact your graduate program assistant Nicole Mitchell at nicole@eecs.ucf.edu or 407-823-0378 for a list of faculty within each specialization area.

For each one of these areas there is a suggested list of courses stated below. Students are also allowed to take courses from other specialization areas, but the majority of their courses should be chosen from courses in their specialization area.

Suggested Courses for Electromagnetics and Optics (EO)

- EEE 5542 Random Processes I(3 credit hours)
- EEE 5557 Introduction to Radar Systems (3 credit hours)
- EEL 5437C Microwave Engineering (4 credit hours)
- EEL 5439C RF and Microwave Communications (3 credit hours)
- EEL 5462C Antenna Analysis and Design (3 credit hours)
- EEL 5432 Satellite Remote Sensing (3 credits)
- EEL 6425C RF and Microwave Measurement Techniques (3 credit hours)
- EEL 6463 Antenna Analysis and Design II (3 credit hours)

- EEL 6482 Electromagnetic Theory I (3 credit hours)
- EEL 6488 Electromagnetic Theory II (3 credit hours)
- EEL 6481 Numerical Techniques in Electromagnetics (3 credit hours)
- EEL 6489 Advanced Topics in Electromagnetics (3 credit hours)
- EEL 6504 Communication System Design (3 credit hours)
- EEL 6530 Communication Theory (3 credit hours)
- MAP 5426 Special Functions (3 credit hours)
- MAP 5435 Advanced Mathematics for Engineers (3 credit hours)
- MAP 6424 Transform Methods (3 credit hours)
- OSE 5041 Introduction to Wave Optics (3 credit hours)
- OSE 5414 Fundamentals of Optoelectronic Devices (3 credit hours)
- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 5115 Interference and Diffraction (3 credit hours)
- OSE 6143 Fiber Optics Communications (3 credit hours)
- OSE 6225 Radiometry and Detection (3 credit hours)
- OSE 6143 Fiber Optic Communications (3 credit hours)
- OSE 6211 Fourier Optics (3 credit hours)
- OSE 6445 High Speed Photonics (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)

Suggested Courses for Micro-Systems and Nano-Systems (MNS)

- BME 5572 Biomedical Nanotechnology (3 credit hours)
- EEL 5245C Power Electronics (3 credit hours)
- EEE 5332C Thin Film Technology (3 credit hours)
- EEE 5352C Semiconductor Material and Device Characterization (3 credit hours)
- EEE 5353 Semiconductor Device Modeling and Simulation (3 credit hours)
- EEE 5356C Fabrication of Solid-State Devices (4 credit hours)
- EEE 5370 Operational Amplifiers (3 credit hours)
- EEE 5378 CMOS Analog and Digital Circuit Design (3 credit hours)
- EEE 5390C Full Custom VLSI Design (3 credit hours)
- EEE 5555 Surface Acoustic Wave Devices and Systems (3 credit hours)
- EEE 6317 Power Semiconductor Devices and Integrated Circuits (3 credit hours)
- EEE 6358 Advanced Semiconductor Device I (3 credit hours)
- EEL 6246 Power Electronics II (3 credit hours)
- EEE 6326C MEMS Fabrication Laboratory (3 credit hours)
- EEE 6338 Advanced Topics in Microelectronics (3 credit hours)
- EEE 6371 Advanced Electronics I (3 credit hours)
- EEE 6372 Advanced Topics in Electronics (3 credit hours)

Suggested Courses for Signal Processing and Systems (SPS)

- EEE 5513 Digital Signal Processing Applications (3 credit hours)
- EEE 5542 Random Processes I (3 credit hours)
- EEE 5557 Introduction to Radar Systems (3 credit hours)
- EEE 6504 Adaptive Digital Signal Processing Applications (3 credit hours)
- EEE 6508 Advanced Topics in Digital Signal Processing (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 5630 Digital Control Systems (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 6504 Communication System Design (3 credit hours)
- EEL 6530 Communication Theory (3 credit hours)
- EEL 6590 Advanced Topics in Communications (3 credit hours)

- EEL 5820 Image Processing (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 5630 Digital Control Systems (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 6619 Nonlinear Robust Control (3 credit hours)
- EEL 6621 Nonlinear Control Systems (3 credit hours)
- EEL 6662 Design of Robot Control Systems (3 credit hours)
- EEL 6667 Planning and Control for Mobile Robotic Systems (3 credit hours)
- EEL 6671 Modern and Optimal Control Systems (3 credit hours)
- EEL 6674 Optimal Estimation for Control (3 credit hours)
- EEL 6616 Adaptive Control (3 credit hours)
- EEL 6680 Advanced Topics in Modern Control Systems (3 credit hours)
- EEL 6683 Cooperative Control of Networked Autonomous Systems (3 credit hours)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EEL 5669 Autonomous Robotic Systems (3 credit hours)
- EEL 6026 Optimization of Engineering Systems (3 credit hours)
- CAP 5015 Multimedia Compression in the Internet (3 credit hours)
- CAP 5415 Computer Vision (3 credit hours)
- CAP 6419 3D Computer Vision (3 credit hours)
- CAP 6411 Computer Vision Systems (3 credit hours)
- CAP 6412 Advanced Computer Vision (3 credit hours)

Dissertation—15-24 Credit Hours

- XXX 7980 Dissertation Research (15 credit hours minimum).
- The program will only allow students to complete up to 24 hours of dissertation coursework in XXX 7980.

The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's adviser and posted on the college's website, www.cecs.ucf.edu/graddefense, at least two weeks before the defense date.

Qualifying Review

The Qualifying Review relies on annual appraisals of the student's progress conducted by the student's research/academic adviser and advisory committee, once formed. The student's appraisal template that the adviser completes will assess the student's academic performance (course performance) and research performance. On an annual basis, and based on the completed PhD Student Annual Review template, as well as additional student documentation attached with approval of the adviser, the EECS Graduate Committee will rate the student's performance as "Above Expectation," "At Expectation," or "Below Expectation" toward the completion of the PhD degree.

Students must pass the Qualifying Review no later than the deadline, which is the semester in which they complete 24 credit hours after admission or within two calendar years after admission, whichever occurs later. If a student has passed the Qualifying Review, then the student is eligible to continue PhD studies. However, a student who does not pass the Qualifying Review by the deadline will be dismissed from the degree program and will be given the opportunity to complete a master's degree (if applicable).

Dissertation Committee

PhD Dissertation Committees for this degree program must have all of the below characteristics:

- consist of at least five committee members including the committee chair
- the committee chair must be either a Regular Appointment faculty member in EECS or a Secondary-Joint Appointment faculty member in EECS
- at least 50% of committee members (when tabulated including the chair) must be EECS regular faculty
- the majority of committee members must vote in favor of passing for the student to Pass
- in addition to the above, all college and university requirements (such as one member outside of EECS) must be met.

Joint faculty members may serve as committee chairs, but graduate faculty scholars may not serve as committee chairs.

Candidacy Examination

After passing the Qualifying Review, students are required to successfully complete the candidacy examination in order to demonstrate readiness for preliminary research in a chosen field of study. This exam is administered by the student's dissertation advisory committee. Preparedness for taking the candidacy examination requires the acceptance of a professional paper by a peer-reviewed conference or journal that is deemed acceptable by the student's advisory committee. Candidacy is normally attempted at the completion of required coursework and must be passed before registering for doctoral dissertation hours (EEL 7980). Continuous enrollment in at least 3 hours of doctoral dissertation hours is required once a student starts taking dissertation credits.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours.

- Completion of all required formal coursework, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submission of an approved program of study.

Signed and well-formed Doctoral Committee Candidacy Status form and associated paperwork (dissertation advisory committee and program of study, etc.) must be submitted to the Electrical and Computer Engineering Graduate Office for processing on or before **the last day to defend Dissertation during the semester <u>prior to</u>** enrolling in dissertation credits.

Dissertation Proposal Exam

After passing the candidacy examination, the student will write a dissertation proposal and present it to the dissertation advisory committee for approval. The proposal must include a description of the research performed to date and the research planned to be completed for the dissertation. The presentation of a written dissertation proposal must be deemed as passing requirements by the majority of the dissertation committee.

Equipment Fee

Students in the Electrical Engineering PhD program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of the student's candidacy and dissertation defense examinations.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a bachelor's or master's degree in Electrical Engineering or a closely related field, a résumé, three letters of recommendation, and a statement about educational, research, and professional career objectives.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Bachelor's or Master's degree in Electrical Engineering or a closely related discipline.
- Résumé.
- Statement about educational, research, and professional career objectives.
- Three letters of recommendation.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting applicants into their research programs.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

Application Deadlines

Electrical Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Kalpathy Sundaram PhD
Professor
Program Director
eecpe-grad@eecs.ucf.edu
407-823-5326
HEC 439B

Environmental Engineering PhD

PROGRAM DESCRIPTION

The Environmental Engineering PhD program focuses on pollution control, pollution prevention, and the correction of pollution effects on natural and man-made environments. The program is known for its strong faculty research interests. Areas of study include drinking water treatment, astute treatment, solid and hazardous waste management, atmospheric pollution control and modeling, environmental water resources, and storm water management. The program's mission is to prepare students for careers in environmental engineering with consulting firms; with industry; within federal, state, and local governments; and/or in higher education.

The program offers an intensive, individually tailored research program suitable for development of an academic or similar research-oriented career. Graduates of the program will have technical knowledge in critical areas of environmental engineering, critical thinking skills, formed and maintained partnerships with industry, government agencies, and professional organizations, and have developed awareness of the changing environmental needs of society and the global environment.

CURRICULUM

The Environmental Engineering PhD program is research oriented and requires a minimum of 72 credit hours beyond the bachelor's degree. Thirty of the 72 credit hours can be met with either a nonthesis or thesis MS in Environmental Engineering. This leaves 42 credit hours of which 18 credit hours must be Dissertation and a minimum of 15 credit hours must be formal course work. A maximum of 9 credit hours of Doctoral Research can be used in the doctoral program, which could be replaced by additional formal course work.

For students not having an MS degree who directly enter the PhD program (BS to PhD), there will be a minimum of 45 credit hours formal course work (i.e., 30 credit hours identical to the course work for a nonthesis MS in Environmental Engineering plus a minimum of 15 credit hours course work past the MS). However, unlike MS students, BS to PhD students will be required to take only 4 of the 5 required courses from the nonthesis MS in Environmental Engineering requirements. In addition, these students can enroll for Doctoral Research credit hours during or after their first semester in the program. The 27 credit hours required in addition to the 45 credit hours course work will be 18 credit hours in Dissertation Research, and a maximum of 9 credit hours in Doctoral Research. Up to 9 credit hours of Doctoral Research can be replaced by additional formal course work subject to the approval of the PhD adviser and the advisory committee.

For both MS to PhD and BS to PhD students, the program of study must be developed with an advisory committee and meet with departmental approval at the beginning of the PhD program, at which time transfer credit will be evaluated on a course-by-course basis.

Total Credit Hours Required:

42 Credit Hours Minimum beyond the Master's Degree

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

All students completing the PhD program must take one course each from 4 of the 5 technical areas listed below for a total of 12 credit hours.

Water Process Engineering

- ENV 6015 Physical/Chemical Treatment Systems in Environmental Engineering (3 credit hours)

Wastewater Process Engineering

- ENV 6016 Biological Treatment Systems in Environmental Engineering (3 credit hours)

Waste Treatment/Water Treatment/Industrial Treatment

- ENV 6347 Hazardous Waste Incineration (3 credit hours)
- ENV 6558 Industrial Waste Treatment (3 credit hours)
- ENV 5410 Water Treatment (3 credit hours)
- EES 5318 Industrial Ecology (3 credit hours)

Air Quality Modeling/Air Pollution Control

- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling (3 credit hours)
- ENV 6126 Design of Air Pollution Controls (3 credit hours)

Water Resources

- Any CWR course at the 5000 or 6000 level (3 credit hours)
- ENV 5636 Environmental and Water Resources Systems Analysis (3 credit hours)
- ENV 6047 Environmental Informatics and Remote Sensing (3 credit hours)

Elective Courses—42 Credit Hours

- To be approved by a faculty adviser and the graduate coordinator
- At least 27 credit hours of formal course work is required, exclusive of research and independent study. For students entering the program with a completed master's degree, at least 15 of the 27 credit hours (exclusive of independent study and research) must be taken at UCF after the master's program, from approved formal courses. For students entering the program without a master's degree in Environmental Engineering or a closely related discipline, at least 45 credit hours of formal course work are required.
- Doctoral Research (XXX 7919) - 9 credit hours maximum (more than 9 research credit hours can be taken, but only a maximum of 9 credit hours will be counted toward the program of study).
- Independent Study (XXX 6908) - 3 credit hours maximum
- No more than a total of 12 credit hours of doctoral research plus independent study will be included in a program of study.
- Directed Research (XXX 6918) is not permitted in a PhD program of Study.

Students can chose among the following courses with the consent of the academic adviser. Students that have no MS degree should complete the core courses for the MS degree in Environmental Engineering or Environmental Engineering Sciences. In addition, all elective courses will be 5000 or 6000 level courses.

Suggested elective courses include:

- EES 5318 Industrial Ecology
- ENV 5410 Water Treatment
- ENV 5505 Sludge Management Operations in Environmental Engineering
- ENV 5517 Engineering Chemical and Biological Processes
- ENV 5636 Environmental and Water Resources Systems
- ENV 6015 Physical/Chemical Treatment Systems in Environmental Engineering
- ENV 6016 Biological Treatment Systems in Environmental Engineering
- ENV 6046 Membrane Mass Transfer
- ENV 6030 Environmental Biotechnology
- ENV 6047 Environmental Informatics and Remote Sensing
- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling
- ENV 6126 Design of Air Pollution Controls
- ENV 6336 Site Remediation and Hazardous Waste Treatment
- ENV 6347 Hazardous Waste Incineration
- ENV 6515L Biological Unit Operations and Processes Laboratory
- ENV 6519 Aquatic Chemical Processes
- ENV 6558 Industrial Waste Treatment

In addition, elective courses can be chosen from any of the following disciplines:

Engineering: any 5000 or 6000 level course from any Engineering discipline. Typical electives come from Environmental Engineering (ENV courses), Water Resources Engineering (CWR courses), Civil Engineering, Construction Engineering, and Industrial Engineering.

Non-Engineering: Statistics, Molecular Biology, Microbiology, Biochemistry, Organic Chemistry, General or Inorganic Chemistry, Biology, Math, and Physics.

Dissertation—18 Credit Hours

- ENV 7980 (18 credit hours minimum)

Examinations

Students must pass three examinations. The first is the PhD qualifying examination. This examination must be taken within the first year of admission into the PhD program. It may be attempted no more than twice. In addition to the qualifying examination, students must pass the candidacy examination and the dissertation defense examination. The candidacy examination is normally taken near the end of the course work and consists of a written and oral presentation of a research proposal, and may include additional written or oral questioning by the committee. A copy of the written examination will be kept as part of the student's official record. The dissertation defense examination is an oral examination taken as defense of the written dissertation.

The College of Engineering and Computer Science requires that all dissertation defense announcements be approved by the student's adviser and posted on the college's website and on the College of Graduate Studies Events Calendar at least two weeks before the defense date.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours. Evidence of meeting these requirements must be received by the College of Graduate Studies by the day before the first day of classes for the semester in which a student wishes to enroll in dissertation hours.

- Completion of all but 6 hours, or less, of course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Equipment Fee

Full-time students in the Environmental Engineering PhD program pay $16 per semester for equipment used in the laboratories. Part-time students pay $8 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of the student's candidacy and dissertation defense examinations.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's and/or bachelor's degree in Environmental Engineering or a closely related field, a résumé, three letters of recommendation, and a statement of educational, research, and professional career objectives.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- A bachelor's and/or master's degree in Environmental Engineering or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Final articulation requirements will be determined by the department after students have been admitted and after discussions with their advisers.

Application Deadlines

Environmental Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Omer Tatari PhD, LEED, AP
Associate Professor
Program Director
tatari@ucf.edu
407-823-6558
Engineering II, 301-K

Hospitality Management PhD

CURRICULUM

The doctoral program requires 58 credit hours of courses beyond the master's degree, including 16 credit hours of core courses, 27 credit hours of specialization courses, and 15 credit hours of Dissertation.

Total Credit Hours Required:

58 Credit Hours Minimum beyond the Master's Degree

Required Courses—43 Credit Hours

Core—16 Credit Hours

- HMG 7587 Foundations in Hospitality and Tourism Research (3 credit hours)
- HMG 7589 Advanced Research Methods in Hospitality and Tourism (3 credit hours)
- HMG 7588 Research Seminar in Hospitality and Tourism (1 credit hour)
- PAF 7802 Advanced Research Methods in Public Affairs I (3 credit hours) or HMG 6586 Research Methods in Hospitality and Tourism (3 credit hours)
- PAF 7804 Advanced Quantitative Methods I (3 credit hours)
- HMG 7295 Theories in Hospitality and Tourism (3 credit hours)

Specialization—27 Credit Hours

At least 6 credit hours should be from HMG 7XXX level courses. Course selection should be based on the student's area of interest in consultation with the major adviser and approved by the Graduate Programs' Director.

Select a minimum of two courses from the following list:

- HMG 7258 Strategies and Tactics: Lodging (3 credit hours)
- HMG 7546 Strategies and Tactics: Guest Service Management (3 credit hours)
- HMG 7715 Strategies and Tactics: Travel and Tourism (3 credit hours)
- HMG 7876 Strategies and Tactics: Foodservice (3 credit hours)

Select a minimum of three Research Electives from the following list:

- HMG 6918 Directed Research (3 credit hours)
- PAF 7805 Advanced Quantitative Research Methods in Public Affairs II (3 credit hours)
- PAF 7820 Seminar in Qualitative Methods in Public Affairs (3 credit hours)
- EDF 7475 Qualitative Research in Education (3 credit hours)
- EDF 7463 Multivariate Statistics (3 credit hours)
- EDF 7406 Analysis of Survey, Record, and Other Qualitative Data (3 credit hours)

Select the remainder of your minimum 27 credit hours from any HMG 6000 level or greater courses or approved 6000/7000 level courses from other UCF colleges.

- FSS 6365 Management of Food Service Operations (3 credit hours)
- HMG 6227 Advanced Training and Development in the Hospitality Industry (3 credit hours)
- HMG 6228 Critical Issues in Hospitality Human Resources (3 credit hours)
- HMG 6245 Managing Hospitality and Guest service Organizations (3 credit hours)
- HMG 6251 The Management of Lodging Operations (3 credit hours)
- HMG 6585 Data Analysis
- HMG 6267 Case Studies in Restaurant Management (3 credit hours)
- HMG 6296 Strategic Management in Hospitality and Tourism (3 credit hours)
- HMG 6347 Advanced Vacation Ownership Resort Planning (3 credit hours)
- HMG 6446 Hospitality/Tourism Information Technology (3 credit hours)

- HMG 6476 Feasibility Studies for Hospitality Tourism Enterprises (3 credit hours)
- HMG 6477 Financial Analysis of Hospitality Enterprises (3 credit hours)
- HMG 6529 Vacation Ownership Resort Sales Management (3 credit hours)
- HMG 6528 Convention and Conference Sales and Services (3 credit hours)
- HMG 6533 Hospitality/Tourism Industry Brand Management (3 credit hours)
- HMG 6566 Principles of Destination Marketing and Management (3 credit hours)
- HMG 6596 Strategic Marketing in Hospitality and Tourism (3 credit hours)
- HMG 6710 International Tourism Management (3 credit hours)
- HMG 6738 Tourism Industry Analysis (3 credit hours)
- HMG 6797 Event Administration (3 credit hours)

Dissertation—15 Credit Hours

- HMG 7980 Dissertation Research (15 credit hours minimum)

Doctoral students must present a prospectus for the dissertation to the doctoral adviser, prepare a proposal and present it to the dissertation committee, and defend the final research submission with the dissertation committee.

Candidacy

To enter candidacy for the PhD, students must have an overall 3.0 GPA on all graduate work included in the planned program and pass all required examinations. Examinations will be scheduled by the student and major adviser in collaboration with the Graduate Programs' Director and Rosen College Examination Committee. Students must be enrolled in the university during the semester an examination is taken.

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination form.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Candidacy Examinations

All PhD candidates will be required to complete two examinations. The written portion of the Candidacy Exam consists of two days, each with a different emphasis. Day one encompasses "Area I" of your GPS (Graduate Plan of Study), and it emphasizes research methodology, statistics and theory. Day two will have a broader emphasis and encompass "Area II" course content in your GPS. The latter will further include questions related to your dissertation topic. Upon completion of the written portion of the examination students are required to pass a one-hour oral examination with questions arising from Area I, Area II and your dissertation.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning requirement.

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master’s degree in a closely related field.
- Official, competitive GRE or GMAT score taken within the last five years.
- Three letters of recommendation.

- Goal statement (This is your opportunity to outline in 500 words why you wish to come to the program, what you think you will contribute to the program and how you feel the program will enhance you both personally and professionally).
- Résumé
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Hospitality Management PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 20	Feb 15		
International Applicants	Dec 20	Jan 15		
International Transfer Applicants	Dec 20	Feb 15		

CONTACT INFO

Alan Fyall PhD
Professor
Program Director
alan.fyall@ucf.edu
407-903-8808
CLI 271

Human Factors and Cognitive Psychology PhD

PROGRAM DESCRIPTION

A PhD degree track in Human Factors and Cognitive (HFC) Psychology, accredited by the Human Factors and Ergonomics Society, is offered to those with a baccalaureate or master's degree in psychology or an allied area. The track seeks to develop the capacity to design, conduct, and apply human factors and cognitive psychology research in a variety of professional and academic settings. It is patterned on the scientist-practitioner model of the American Psychological Association (APA) and adheres to guidelines established by the committee for Education and Training of APA's Division 21 (Applied Experimental and Engineering Psychology). A variety of research, consulting, and internship arrangements are included in the track. Students receive training in the content and techniques of human factors and cognitive psychology–including statistical and quantitative procedures, experimental design, survey methods, computer techniques, and other research methodologies. Students must also select a concentration area, which may be in human-computer interaction, human-machine-environment interface, human performance, human factors in simulation and training, cognitive neuroscience, or other areas of interest with the adviser's authorization. A dissertation representing a significant research contribution to the field is required.

The fields of Human Factors and Ergonomics adopt a multidisciplinary approach to the study of the interaction between humans and the environment, including systems, products, people, and procedures. Human Factors, as one of the core disciplines of the track, is a science that adds the human into the equation to make life easier, safer and more enjoyable by applying psychological theory and research to human-centered design. A well-known Human Factors textbook describes the field in the following quotation.

“Human factors is the application of scientific knowledge and principles to the design of products, systems, and/or environments. The goal of human factors is making the human interaction with systems one that: reduces error, increases productivity, enhances safety, and enhances comfort. Human Factors then involves the study of factors and development of tools that facilitate the achievement of these goals” (Wickens, Gordon, and Liu, 1998, p. 2).

As scientific disciplines, Human Factors and Cognitive Psychology overlap with areas such as Engineering Psychology, Social Psychology, Industrial/ Organizational Psychology, Cognitive Engineering, Ergonomics, Neuroscience, and Industrial Engineering. Human Factors researchers and practitioners work in areas such as automation, cognition, decision-making, display processing, human-computer interaction, physiology, safety and human error, sensation and perception, sensory systems, stress, workload, training, transportation, and workspace design.

The Psychology PhD program in Human Factors and Cognitive Psychology includes classroom studies and a variety of research, consulting, and internship opportunities. The program is accredited by the Human Factors and Ergonomics Society, and patterned on the scientist-practitioner model of the American Psychological Association (APA). It adheres to guidelines established by the committee for Education and Training of APA’s Division 21 (Applied Experimental and Engineering Psychology).

Human Factors is an approach to practice and design focusing on the interaction between humans and the environment. It utilizes research, theory, and knowledge of human behavior, capabilities, and limitations to add the "human" into the scientific equation and make life easier, safer, and more enjoyable. The program’s mission is to develop the capacity to design, conduct, and apply human factors and cognitive psychology research in a variety of professional and academic settings.

Students learn about the content and techniques of human factors psychology—including statistical and quantitative procedures, experimental design, survey methods, computer techniques, and other research methodologies. Students select a concentration area within the Human Factors and Cognitive Psychology program, which may be in human-computer interaction, human-machine-environment interface, human performance, human factors in simulation and training, or other areas of interest with the adviser's authorization.

Once all course requirements have been fulfilled, students demonstrate their critical thinking skills by undergoing candidacy examinations and completing a dissertation representing a significant research contribution to the field.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

Applicants must choose a track in this program. Track(s) may have different requirements.

Application Deadlines

Human Factors and Cognitive Psychology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15			
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Bernard Jensen PhD
Associate Professor
Program Director
bernard.jensen@ucf.edu
407-708-2836

Industrial and Organizational Psychology PhD

PROGRAM DESCRIPTION

The Industrial and Organizational Psychology track in the Psychology PhD program educates and trains students to contribute to and perpetuate psychological science and practice.

The Industrial and Organizational Psychology track in the Psychology PhD program develops competency through research and training for the application of psychological principles to organizations. The degree is patterned on the scientist-practitioner model of the American Psychological Association (APA).

Program graduates are involved in many issues of critical importance to society, including fairness in the selection and treatment of employees, the creation of work environments that maximize the satisfaction and productivity of employees, and the study of technological influences on human performance.

The doctoral program provides students with training consistent with the scientist-practitioner model. A key assumption of the program is that every graduate must be a highly competent scientist who can contribute to both the science and practice of the discipline.

To view our Industrial and Organizational Psychology Doctoral Program Handbook, please visit www.handbooks.graduate.ucf.edu/IOPsychPhD.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

Applicants must choose a track in this program. Track(s) may have different requirements.

Application Deadlines

Industrial and Organizational Psychology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 15	Dec 15		
International Applicants	Dec 15			
International Transfer Applicants	Dec 15	Dec 15		

CONTACT INFO

Bernard Jensen PhD
Associate Professor
Program Director
bernard.jensen@ucf.edu
407-708-2836

Industrial Engineering PhD

PROGRAM DESCRIPTION

The Doctor of Philosophy in Industrial Engineering is intended for a student with a bachelor's or master's degree in Industrial Engineering or a closely related discipline. The PhD program is designed to produce highly skilled researchers with both broad knowledge of industrial engineering and in-depth knowledge of specialty fields for careers in academia, industry, and government. The program allows a candidate to thoroughly study some aspect of industrial engineering through faculty expertise in research areas such as management systems, systems simulation and modeling, operations research, quality systems engineering, interactive simulation and training systems, systems engineering, and human systems engineering, human-computer interaction, and ergonomics.

The Industrial Engineering program is structured to support the emergence of Central Florida as a national center of high technology as well as supporting the diverse service industries in the region and throughout the nation.

In the Industrial Engineering PhD program, students may be able to individually craft their programs of study and select their courses to focus in one or more of the following research areas for their dissertations:

Human Systems Engineering/Ergonomics:

As technology has become more sophisticated, the need to design for the human user has become more difficult, yet even more important. Human engineering and ergonomics assist in ensuring that as technology advances, the abilities, limitations, and needs of humans are considered in the system design. This not only supports the needs of the user, it also optimizes the efficiency and usability of the system designed. Traditionally, ergonomics has been associated with biomechanical issues and work measurement and performance issues in physical system design, as well as occupational and industrial safety. The broader focus of human engineering encompasses those issues as well as incorporating the reaction and effectiveness of human interaction with systems, both physical systems and virtual systems such as computer-based models.

Research in the Human Systems Engineering and Ergonomics area provides students with the necessary knowledge in human engineering and ergonomics to effectively design tasks, industrial systems, and work environments that maximize human performance, safety, and overall productivity.

Interactive Simulation and Training Systems:

The Interactive Simulation and Training Systems research within the Industrial Engineering MS program focuses on providing a fundamental understanding of significant topics relative to simulation systems and the requirements, design, development, and use of such systems for knowledge transfer in the technical environment. Courses in this area address the evolving and multiple discipline application of interactive simulation by providing a wealth of electives to support development of individual student interests and talents. In conjunction with UCF's Institute for Simulation and Training, industrial organizations involved in simulation in the Central Florida region, military organizations, and other governmental organizations, ISTS research in the MS program provides exposure to both military and commercial interactive simulation and training systems.

The emphasis is on the application and development of interactive simulation and training systems to meet various requirements including, but not limited to: simulators, skill trainers, organizational learning systems, computer and web-based interactive simulation systems and other novel interactive simulation efforts. Courses in the interactive simulation and training systems area prepare individuals with an undergraduate degree in engineering, science, education, psychology, mathematics or other related disciplines for careers in simulation, focusing particularly on the interactive simulation and training systems industries.

Management Systems/Engineering management:

The Management Systems/Engineering Management research focuses on providing the knowledge for improving organizational systems. Engineering Management focuses on effective decision-making and successful project delivery in engineering and technological organizations. With technological advancements comes a new level of organizational complexity. As a result new knowledge is needed to help the technical organization understand how to improve. The Management Systems/Engineering Management studies and research in the Industrial Engineering program are intended for individuals of all engineering disciplines. Research and coursework focus on a systems view of engineering problems related to the management of complex industrial, military, government, and social systems.

Operations Research:

The Operations Research courses in the Industrial Engineering MS program uses mathematics and computer-based systems to model operational processes and decisions in order to develop and evaluate alternatives that will lead to gains in efficiency and effectiveness. Drawing on probability, statistics, simulation, optimization, and stochastic processes, Operations Research provides many of the analytic tools used by industrial engineers as well as by other analysts to improve processes, decision-making, and management by individuals and organizations. Research in this area is ideal for students who have an undergraduate degree in engineering, mathematics, or science. The knowledge in these courses build on an undergraduate Engineering, Mathematics, or Science degree to develop a strong modeling and analytical capability to improve processes and decision-making.

Quality Systems Engineering:

The Quality Systems Engineering research in the Industrial Engineering MS program focuses on providing the knowledge for improving product and process quality in manufacturing and service industries. Quality Systems Engineering provides both the quantitative tools for measuring quality and the managerial focus and organizational insight required to implement effective continuous improvement programs and incorporate the voice of the customer. The Quality Systems Engineering courses builds on an undergraduate degree in industrial engineering or a closely related discipline to provide the necessary knowledge to plan, control, and improve the product assurance function in government, military, service, or manufacturing organizations.

Simulation Modeling and Analysis:

The Simulation Modeling and Analysis research and studies in the Industrial Engineering MS program focus on providing a fundamental understanding of the functional and technical design requirements for simulation in manufacturing and service industries. Research in this area is based on a systems modeling paradigm and provides coding and development capability in the context of a broader systems framework. Significant exposure to design and analysis aspects is a core element of the track. The Simulation Modeling and Analysis research and coursework prepare individuals with an undergraduate degree in Engineering, Science, Mathematics, or a closely related discipline for careers in simulation, focusing particularly on using simulation as an analysis and design tool for the manufacturing and service industries.

Systems Engineering:

Intelligence in being infused into everyday systems, processes and infrastructure that enable physical goods to be developed, manufactured, bought and sold. These same systems also facilitate the movement and delivery of global products and services that support worldwide markets such as finance, energy resources and healthcare systems.

With these technological advancements, comes a new level of complexity as organizations struggle to integrate systems, processes and data feeds. As a result, the demand for systems engineering and related skills is expected to grow significantly. Systems engineers design and implement computer systems, software and networks, including defining complex system requirements, and determining system specifications, processes and working parameters.

The Systems Engineering studies and research in the Industrial Engineering MS program are intended for individuals of all engineering disciplines. Research and coursework focus on a systems view of engineering problems related to the management of complex industrial, military, government, and social systems.

CURRICULUM

The Industrial Engineering PhD program requires a minimum of 72 credit hours beyond the bachelor’s degree. If a student holds a master's degree, the student must complete at least 27 credit hours of required course work, in addition to 15 credit hours of dissertation.

Of the total course work taken, 27 hours must be formal course work exclusive of independent study and 15 credit hours must consist of dissertation research (EIN 7980). All remaining hours are determined with a faculty adviser and approved by the department. Details about this program are located in the Industrial Engineering PhD Handbook .

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

The Industrial Engineering PhD program requires a minimum of 72 credit hours beyond the bachelor's degree. Beyond the master's degree, students must complete at least 27 credit hours of required formal course work exclusive of independent study, in addition to 15 credit hours of dissertation research (EIN 7980).

All remaining hours are determined with a faculty adviser and approved by the department. Details about this program are located in the Industrial Engineering PhD Handbook.

As a pre-doctoral student at the beginning of the PhD program, a preliminary plan of study must be developed with the graduate program director and meet with departmental approval. At this time transfer credit will be evaluated on a course-by-course basis. The student's plan of study itemizing the study plan must be approved prior to the end of the first semester of studies by the Graduate Director of the IEMS department.

After completion of the Qualifying Examination and admission as a doctoral student, the official plan of study is developed that must meet with departmental approval. The student's dissertation committee approves the final plan of study after the Candidacy Examination is passed. These steps are normally completed within the first year of study beyond the master's degree. The degree must be completed within seven years from the date of admission as a pre-doctoral student and within four years of passing the Candidacy Examination.

The Department of Industrial Engineering and Management Systems monitors student progress and may dismiss a student if performance standards or academic progress are not maintained. Satisfactory academic performance in a program includes, but is not limited to, maintaining at least a 3.0 GPA in all graduate work taken as part of (or transferred into) the plan of study. Satisfactory performance also involves maintaining the standards of academic progress and professional integrity expected in our discipline. Failure to maintain these standards may result in dismissal from the program.

Required Courses—6 Credit Hours

- ESI 6891 IEMS Research Methods (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

Elective Courses—51 Credit Hours

- At least seventeen unrestricted electives
- A maximum of 30 semester credit hours from an earned master's degree may be applied toward these requirements. Waived credits are evaluated on a course-by-course basis.

Dissertation—15 Credit Hours

- EIN 7980 Dissertation (15 credits hours minimum)

List of Electives

Students, with the approval of their advisers and/or the graduate program director, may select from the following groups of courses to satisfy the needs of their research goals or career objectives. To assist students in achieving their goals and objectives, courses are grouped below to suggest focus areas, only as guides for advising and course selection. The listing of these courses does not guarantee that they will be offered by the department in a particular year or semester.

In addition to the courses listed below, students may be allowed to take courses from the following disciplines, with the approval of the graduate program director, as an elective in their graduate plan of study.

- Other Engineering Programs
- Computer Science
- Mathematics and Statistics
- Business Administration/Management

Group A: Human System Engineering/Ergonomics

- EIN 5248C Ergonomics
- EIN 5251 Usability Engineering
- EIN 6270C Work Physiology
- EIN 6258 Human-Computer Interaction
- EIN 6279C Biomechanics
- EIN 6935 Advanced Ergonomics Topics
- EIN 6271 Human Reliability

Group B: Quality and Production Systems

- ESI 6225 Quality Design and Control
- ESI 6224 Quality Management
- EIN 5392C Manufacturing Systems Engineering
- EIN 6336 Production and Inventory Systems
- EIN 6425 Scheduling and Sequencing
- EIN 5356 Cost Engineering
- ESI 5227 Total Quality Improvement

Group C: Management Systems

- EIN 6182 Engineering Management
- EIN 5117 Management Information Systems I
- EIN 6370 Innovation in Engineering Design
- EIN 6339 Operations Engineering
- EIN 5108 The Environment of Technical Organizations

Group D: Simulation, Optimization, and Modeling

- ESI 6336 Queuing Systems
- ESI 5306 Operations Research
- ESI 6418 Linear Programming and Extensions
- ESI 6532 Object-Oriented Simulation
- ESI 5531 Discrete System Simulation
- EIN 5255C Interactive Simulation
- EIN 6528 Simulation Based Life Cycle Engineering
- EIN 6645 Real-Time Simulation Agents
- EIN 6936 Seminar in Advanced Industrial Engineering
- ESI 5419C Engineering Applications of Linear and Nonlinear Optimization
- ESI 6217 Statistical Aspects of Digital Simulation

Group E: Systems Engineering

- ESI 6358 Decision Analysis
- ESI 5359 Risk Assessment and Management
- EIN 6215 Systems Safety Engineering and Management
- ESI 5236 Reliability Engineering
- EIN 5346 Engineering Logistics

Examinations

At Qualifying Examination (QE) time students should know their intended direction of research but they do not necessarily know their specific topic/problem. The QE's objective is to determine whether the student's knowledge allows for a thorough understanding of methods and techniques discussed in the literature in his/her area(s) of interest.

The IEMS PhD Qualifying Examination is a take-home exam designed to test the student's knowledge of fundamentals within the discipline and to assess the student's ability to conduct independent research and to think analytically, creatively, and independently. Exam questions address the student's global research awareness as well as his/her analytical thinking, research potential, and communication skills. The student must be able to understand the field's literature, as well as to summarize and discuss research findings.

It is strongly recommended that students take ESI 6891 IEMS Research Methods prior to taking the Qualifying Examination. While thinking about taking the Qualifying Examination, students are strongly encouraged to evaluate their options for research and make informed decisions about their area of research interests. It is recommended that students seek advice from faculty members whose research interests match their own research areas in order for the students to properly select their electives and develop the appropriate plan of study.

In addition to the Qualifying Examination, the student must pass a Candidacy Examination and a Dissertation Defense Examination. Details about these examinations and other requirements are located in the Industrial Engineering PhD Handbook.

The Candidacy Examination may be taken any time after successful completion of the Qualifying Examination, but not in the same semester. The objective of the Candidacy Examination is to determine if the student has the breadth and depth of knowledge required to conduct independent research in the proposed area. The Candidacy Examination includes an oral presentation of a detailed dissertation proposal**,** which becomes the oral candidacy document, and the written component of the Candidacy Examination is satisfied by the proposal document, which becomes the required candidacy document.

The Dissertation Defense Examination is an oral examination taken in defense of the written dissertation. The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's adviser and posted on the college's website and on the Events Calendar of the College of Graduate Studies website at least two weeks before the defense date.

Dissertation Committee Requirement

The doctoral committee must consist of a minimum of four members: at least three must be graduate faculty members from within the student's department, and one must be at large, from graduate faculty scholars outside the Industrial Engineering faculty. The committee chair must be a member of the graduate faculty who is approved to direct dissertations. Faculty members with joint appointments in IEMS may serve as department-faculty committee members. Adjunct faculty and off-campus experts who are graduate faculty scholars may serve as the outside-the-department person on the committee, as well as serve as co-chairs of the committee with the approval of the department Chair. The College of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

Joint faculty members may serve as committee chairs. Off-campus experts and adjunct faculty who are graduate faculty scholars may not serve as committee chairs, but may serve as co-chairs.

All committee members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal or final dissertation must be approved by the advisory committee with no more than one dissenting vote.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours. Evidence of successful completion of these requirements must be received by the College of Graduate Studies one day prior to the start of classes for the semester in which a student wishes to enroll in dissertation hours.

- Completion or near completion of course work, except for dissertation hours.
- Successful completion of the candidacy examination, including successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Equipment Fee

Students in the Industrial Engineering PhD program pay a $58 equipment fee each semester that they are enrolled. For part-time students, the equipment fee is $29 per semester.

INDEPENDENT LEARNING

The Independent Learning requirement is met by successful completion of the student's candidacy and dissertation defense examinations.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening submission (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's degree in Industrial Engineering or a closely related field, résumé, three letters of recommendation, and a statement of educational, research, and professional career objectives.

These application requirements are effective for those applying to Spring 2018 and beyond. For Fall 2017 application requirements, please visit http://2016-2017.graduatecatalog.ucf.edu/programs/

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Bachelor's or Master's degree in Industrial Engineering or a closely related discipline
- Official, competitive score on the GRE taken within the last five years
- Résumé or Curriculum Vita
- Goal Statement
    - The Goal Statement should discuss all relevant professional background and any previous research experience. The statement should explain the motivation behind the pursuit of a doctoral degree in Industrial Engineering at UCF. Future career goals after the completion of the applicant's doctoral study should be discussed.
    - Most importantly, the applicant must clearly describe the particular area(s) of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential dissertation advisor.
    - The goal statement should between 500 and 1,000 words.
- Three letters of recommendation
    - The letters of recommendation should be from faculty members, university administrators and employers with a supervisory role of the applicant. The letters, which must be current to the application and must not be for another degree program, should address the educational and career goals of applicant. The letter writers should also know the applicant well enough to discuss the applicant's capacity to perform, excel and succeed in a graduate program. Letters for PhD applicants must discuss the applicant's ability to perform graduate-level research. At least two of the letters should be furnished by college or university professors who are acquainted with the applicant

Applications are accepted for the fall and spring terms only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Fellowships and assistantships may be awarded based on the student's GPA, GRE scores, letters of recommendation, curriculum vitae/resume, and goals statement.

Students must complete any needed articulation course work and pass a PhD Qualifying Examination in order to be admitted as a regular doctoral student. This exam is normally taken within the first year after all articulation work is completed.

Application Deadlines

Industrial Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Ahmad Elshennawy PhD
Professor
Program Director
ahmade@ucf.edu
407-823-2204
Engineering 2, Room 312

Materials Science and Engineering PhD

PROGRAM DESCRIPTION

The Materials Science and Engineering PhD program is designed for students with a master's degree in materials science and engineering, or closely related disciplines. The program provides students with a fundamental and applied research-based education suitable for seeking employment in industry or academia.

CURRICULUM

The Materials Science and Engineering PhD program requires a minimum of 72 credit hours beyond the bachelor's degree. The program requires 27 hours of formal course work exclusive of independent study and a minimum of 15 hours of dissertation research (EMA 7980). A minimum of 12 credit hours of elective coursework is required to be taken at UCF. Details of program requirements are located in the Materials Science and Engineering PhD Handbook.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Students entering the Materials Science and Engineering PhD program with a bachelor's degree are required to complete 72 credit hours of graduate coursework, of which 27 hours must be formal coursework, 12 credit hours must be elective courses taken at UCF and a minimum of 15 dissertation credit hours.

Students entering the Materials Science and Engineering PhD program with a master's degree are required to complete 72 credit hours of graduate coursework including up to 30 hours of credit transfer for formal courses from their master's degree. These students have to take at least 12 credit hours of formal elective courses as listed below at UCF and 27 credit hours of formal graduate coursework in total.

The rest of the hours in the PhD program can be chosen by the student in consultation with the adviser and the dissertation committee and with the approval of the program director.

Unless a completed (signed) program of study itemizing the study plan is approved prior to the end of the first semester of studies, the program director may choose not to accept any part of the coursework (including independent studies and/or directed research) taken by the student on a program of study subsequently submitted by the student.

Core Courses—12 Credit Hours

The following core courses are used as the basis for the doctoral qualifying exam and are recommended, but not required:

- EMA 5104 Intermediate Structure and Properties of Materials (3 credit hours)
- EMA 5106 Metallurgical Thermodynamics (3 credit hours)
- EMA 5317 Materials Kinetics (3 credit hours)
- EMA 6126 Physical Metallurgy (3 credit hours) or EMA 6319 Colloids and Interface Engineering (3 credit hours)

Elective Courses—57 Credit Hours

The program requires that 27 credit hours must be formal coursework, exclusive of independent study. Of these, it is required that 12 credit hours consist of elective courses taken at UCF, outside of the core courses listed above. Note that if both EMA 6126 Physical Metallurgy and EMA 6319 Colloids and Interface Engineering are taken, one of them may be taken as an elective. Elective courses that are commonly taught in Materials Science and Engineering are listed below:

- EMA 5104 Intermediate Structure and Properties of Materials (3 credit hours)
- EMA 5106 Metallurgical Thermodynamics (3 credit hours)
- EMA 5317 Materials Kinetics (3 credit hours)
- EMA 6626 Mechanical Behavior of Materials (3 credit hours)
- EMA 5108 Surface Science (3 credit hours)
- EMA 5140 Introduction to Ceramic Materials (3 credit hours)
- EMA 6130 Phase Transformation in Metals and Alloys (3 credit hours)
- EMA 6136 Diffusion in Solids (3 credit hours)
- EMA 5585 Materials Science of Thin Films (3 credit hours)
- EMA 6516 X-ray Diffraction and Crystallography (3 credit hours)
- EMA 5586 Photovoltaic Solar Energy Materials (3 credit hours)
- EMA 5584 Biomaterials (3 credit hours)
- EMA 5060 Polymer Science and Engineering (3 credit hours)
- EMA 6518 Transmission Electron Microscopy (3 credit hours)
- EMA 5705 High Temperature Materials (3 credit hours)
- EMA 5610 Laser Materials Processing (3 credit hours)
- EML 6085 Research Methods in MMAE (3 credit hours)
- EMA 6149 Imprerfections of Crystals (3 credit hours)

Electives Outside EMA Offerings

- CHM 5450 Polymer Chemistry (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHM 5715C Optical Materials Processing and Characterization Techniques (3 credit hours)
- CHM 6711 Chemistry of Materials (3 credit hours)
- EEE 5332C Thin Film Technology (3 credit hours)
- EEE 5352C Semiconductor Material and Device Characterization (3 credit hours)
- EEE 6326C MEMS Fabrication Laboratory (3 credit hours)
- EML 5290 Introduction to MEMS and Micromachining (3 credit hours)
- EML 5291 MEMS Materials (3 credit hours)
- OSE 5312 Light Matter Interaction (3 credit hours)
- OSE 6432 Guided Waves and Optoelectronics (3 credit hours)
- PHY 5140C Ion-Solid Interactions (3 credit hours)
- PHZ 5405 Condensed Matter Physics (3 credit hours)

Other courses may be included in the elective hours with the approval of the student's faculty adviser and the Materials Science and Engineering graduate program director.

Dissertation—15 Credit Hours

- EMA 7980 (15 credit hours minimum)

The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's adviser and posted on the college's website, www.cecs.ucf.edu/graddefense and on the Events Calendar of the College of Graduate Studies website at least two weeks before the defense date.

Examinations

Both a qualifying exam and a candidacy exam are required. The doctoral qualifying exam is offered twice each year, during the fall and shortly after the end of the spring semesters. This is a two-day written examination intended to evaluate the student's mastery of the field of Materials Science and Engineering. Depending on their area of research specialization and with their faculty adviser's approval, students may choose to take one of two versions of the exam. One focuses on Nanomaterials and the second is more broadly based in Materials Science Engineering. Details of the content of the two exams may be found at the departmental website, http://mse.ucf.edu/graduateprogram/CurrentStudents.php . The candidacy exam should be taken in the academic semester immediately following the student's passing of the qualifying exam and is scheduled by mutual agreement of the student and his/her dissertation committee. The student must prepare a written description of their proposed dissertation research prior to the examination, and present that to their dissertation committee to review prior to the candidacy examination. Additionally, the student may be questioned orally during the exam by the dissertation committee on topics relevant to the proposed dissertation research.

Dissertation Committee

The doctoral committee must consist of a minimum of five members: three must be faculty members of the graduate program faculty approved to direct dissertations by the Materials Science and Engineering program (see www.graduatecatalog.ucf.edu/GradFaculty/), one must be at large from outside the degree program. The committee Chair must also be a member of the UCF Graduate Faculty approved to direct dissertations by the Materials Science and Engineering program. Adjunct faculty and off-campus experts, if approved as Graduate Faculty Scholars, may serve as the outside-the-program person on the committee. Off-campus experts and adjunct faculty, if Graduate Faculty Scholars, may not serve as committee chairs but may be co-chairs. The College of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

The dissertation committee should be selected by the student and adviser at least a month before the candidacy exam. Extra time may be needed if one off-campus expert of adjunct faculty has not yet been approved as Graduate Faculty Scholar. The student and adviser should consult with the graduate program director to ensure that all requirements for the committee members are met and that all committee members informed of their responsibilities.

Admission to Candidacy

The following items are required to be admitted to candidacy and enroll in dissertation hours (enrollment in dissertation hours begins the semester following the completion of these requirements). Evidence of meeting these requirements must be received by the College of Graduate Studies by the day before the first day of classes for the semester in which a student wishes to enroll in dissertation hours.

- Completion of 51 credit hours of course work, except for dissertation hours.
- Successful completion of the qualifying examination.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved Graduate Faculty and Graduate Faculty Scholars.
- Submission of an approved program of study.

Dissertation Defense

All dissertations in Materials Science and Engineering must represent high-quality scientific work. Prior to scheduling the dissertation defense, the high quality of the research must be evidenced by: (1) two refereed journal publications with the doctoral candidate as first author that are in print, or formally accepted for publication, or (2) satisfaction of an alternative publication requirement as recommended by the Dissertation Advisory Committee and approved by a majority vote at a meeting of the program faculty (those having primary or secondary appointments in the MSE Department).

The dissertation proposal must be successfully defended and accepted by the Dissertation Committee in a meeting convened for that purpose. The dissertation proposal must be a complete dissertation document provided to the committee at least two weeks prior to the date of defense. In addition, the high quality of the research must be evidenced by two refereed journal publications of the doctoral candidate as first author that are in print, or formally accepted for publication, prior to the dissertation defense.

All members of the Dissertation Committee vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the advisory committee.

Equipment Fee

Full-time students in the Materials Science and Engineering PhD program pay $17 per semester for equipment each semester that they are enrolled. Part-time students pay $8.50 per semester.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to meeting general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, an undergraduate degree in Materials Science and Engineering or a closely related field, résumé, three letters of recommendation, and a statement about educational, research, and professional career objectives.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Master's and/or bachelor's degree in Materials Science and Engineering or a closely related discipline.
- Résumé.
- Statement about educational, research, and professional career objectives should include the student's intention for full or part-time study and their desire for a assistantship or fellowship.
- Three letters of recommendation.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Application Deadlines

Materials Science and Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Jiyu Fang PhD
Associate Professor
Program Director
jiyu.fang@ucf.edu
407-882-0609
Engineering I, RM 207B

Mathematics PhD

- Financial Mathematics

PROGRAM DESCRIPTION

The Doctor of Philosophy degree in Mathematics is intended to provide a broad base in applied and industrial mathematics. The goal of the program is to produce students who will attain distinction in their fields of research. In order to achieve this, the program has required core courses as well as a set of electives providing cross-disciplinary subjects. All students are required to take electives outside the department.

Students in the program can specialize in one of many aspects of mathematics, including Approximation Theory, Applied and Computational Harmonic Analysis, Big Data and Mathematical Statistics, Combinatorics and Graph Theory, Commutative Algebra and Algebraic Geometry, Control and Optimization, Differential and Symplectic Geometry, Fluid and Plasma Dynamics, Functional Analysis, Inverse and Ill-posed Problems, Mathematical Biology, Mathematical Finance, Nonlinear Waves and Nonlinear Dynamics, Numerical Analysis, Orthogonal Polynomials, Partial Differential Equations, Probability and Stochastic Analysis, Tomography and Medical Imaging, and Wave Propagation. Responding to this wide variety of interests, the program offers flexibility in the composition of the core courses as well as the candidacy examination. The program is comprehensive with opportunities for students to pursue research in a variety of disciplines.

Faculty research interests include: Algebra and Number Theory, Applied Analysis, Applied and Computational Harmonic Analysis, Classical Analysis and Approximation Theory, Combinatorics and Graph Theory, Dynamic Systems, Functional Analysis, Geometry and Topology, Inverse Problems, Mathematical Biology, Mathematical Finance, Mathematical Physics, Numerical Analysis, Orthogonal Polynomials and Special Functions, Partial Differential Equations, and Probability and Statistics.

CURRICULUM

The Mathematics PhD program consists of at least 75 credit hours of course work beyond the bachelor's degree, of which a minimum of 39 hours of formal course work, exclusive of independent study, and 15 credit hours of dissertation research (7980) are required. The program requires 18 credit hours of core courses, and 6 to 12 credit hours in two 2-semester sequences.

Total Credit Hours Required:

75 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—18 Credit Hours

The remaining 30 to 36 credit hours consist of additional dissertation research (7980 or 7919), at least 15 credit hours of regular classroom elective courses, and at most 12 credit hours of independent study or independent directed research. Electives require the approval of the adviser and the graduate program director; up to 12 credit hours may be taken outside the department. At least one-half of the program courses must be taken at the 6000 level. Students who pass the qualifying examination may substitute some of the core courses at the approval of the adviser and the graduate program director.

All students are required to complete the following courses with grade of "B" or better.

- MAA 5228 Analysis I (3 credit hours)
- MAA 6229 Analysis II (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)
- MAP 6385 Applied Numerical Mathematics (3 credit hours)
- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours)
- MAA 6405 Complex Variables (3 credit hours) or MAP 5336 Ordinary Differential Equations and Applications (3 credit hours)

Elective Courses—42 Credit Hours

At least 21 hours of course work here must be formal course work, exclusive of independent study.

Restricted Electives—6-12 Credit Hours

All students are required to complete two 2-semester sequences. Sequences are pairs of related courses that give advanced knowledge in an area of mathematics.

Each sequence must be approved by the dissertation adviser, dissertation committee, and the graduate program director. The following shows examples of acceptable sequences using current courses. We expect that other sequences will be developed as our program grows. Note that some sequences consist of a core course plus one elective, while others consist of two electives. Thus, the credit hours in this requirement are variable (6 to 12 credit hours). A written examination on two such sequences will be required as part of the candidacy examination (see more details in Candidacy Examination section).

- MAP 6407 Integral Equations and the Calculus of Variations (3 credit hours) / MAP 6408 Perturbations and Asymptotic Methods (3 credit hours)
- MAA 6405 Complex Variables (3 credit hours) / MAA 6404 Complex Analysis (3 credit hours)
- MAD 5205 Graph Theory I (3 credit hours) / MAD 6309 Graph Theory II (3 credit hours)
- MAP 5336 Ordinary Differential Equations with Applications (3 credit hours) / MAP 6356 Partial Differential Equations (3 credit hours)
- MAA 6238 Measure and Probability I (3 credit hours) / MAP 6111 Mathematical Statistics (3 credit hours)
- MAA 6306 Real Analysis (3 credit hours) / MAA 6506 Functional Analysis (3 credit hours)

Unrestricted Electives—30-36 Credit Hours

Electives are chosen in consultation with the student's advisory committee and may be chosen from the suggested options: Discrete Mathematics, General Applied Mathematics, Mathematical Computer Tomography, Image Processing and Computer Graphics, Mathematical Finance, Mathematical Physics, Pure Mathematics, and Mathematical Statistics. A list of elective course options can be obtained from the graduate program director.

Courses taken outside the Mathematics department must be approved by the adviser and graduate program director. These courses are selected in consultation with the student's advisory committee.

Dissertation—15 Credit Hours Minimum

- XXXX 7980 Dissertation Research (15 credit hours minimum)

Qualifying Examination

The qualifying/comprehensive examination is based on the core course work (MAA 5228 Analysis I, MAA 6229 Analysis II, MAS 5145 Advanced Linear Algebra and Matrix Theory). To continue in the PhD program students must pass the examination at the PhD level. Two attempts are permitted. The examination will be administered twice a year: one in the Fall semester and the other in the Spring semester. To take the examination, students must have earned a "B" or better in each core course, must have a minimum grade point average of 3.0 (out of 4.0) in the program, or must obtain permission from the graduate program director. Students will normally take the examination after the first year and are expected to have passed it by the end of the second year of study unless a written request for a postponement has been approved by the Graduate Committee at least two months before the examination date. The student must pass the Qualifying Examination in at most two attempts.

It is strongly recommended that the student select a dissertation adviser by the completion of 18 credit hours of course work, and it is strongly recommended that the student works with the dissertation adviser to form a dissertation committee within two semesters of passing the Qualifying Examination.

Candidacy Examination

The Candidacy Examination consists of a written examination based on the materials from two of the selected two-semester sequence courses taken by the students beyond the core courses on Analysis and Advanced Linear Algebra (MAA 5228, MAA 6229, MAS 5145). A committee formed or selected by the Graduate Committee or the graduate program director is responsible for preparing and grading the written examinations.

After passing the candidacy examination and meeting other requirements, the student can register for Doctoral Dissertation (MAP 7980 or MAA 7980). A minimum of 15 Doctoral Dissertation credit hours are required. The Candidacy Examination can be attempted after passing the qualifying examination. The Candidacy Examination must be completed within three years after passing the qualifying examination. A student must successfully pass the Candidacy Examination within at most two attempts.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Dissertation Proposal Examination

After passing the candidacy examination, the student will prepare a dissertation proposal and orally present it to the dissertation advisory committee for approval. The proposal will include a description of the research performed to date and an agenda for the research planned to be completed for the dissertation. In addition to standards of correctness, indicating a suitable level of mastery of the material of the area of the dissertation, and suitability of the proposed dissertation topic, the presentation must meet current standards for professional presentations within the discipline of mathematics. For the successful completion of the Dissertation Proposal Examination the presentation must be judged as passing the requirements for the examination by the majority of the dissertation committee. This exam must be passed within 18 months of passing the candidacy examination and not later than the end of the sixth year of graduate study. A candidate must pass this examination within at most two attempts.

Dissertation Defense

Upon completion of a student's research, the student's committee schedules an oral defense of the dissertation. Most students complete the program within five years after obtaining their bachelor's degree. Students are expected to complete the dissertation in no more than seven years from the date of admission to the program.

INDEPENDENT LEARNING

The required 15 credit hours of dissertation will provide ample opportunities for students to gain the independent learning experience through studying published research papers and deriving, on their own, new and meaningful research results.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, bachelor's degree in related field from a regionally accredited institution, three letters of recommendation, a goal statement, and a résumé.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's degree in related field.
- Official, competitive GRE score, taken in the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of the program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Transfer of credits from other programs will be considered on a course-by-course basis. Additionally, students entering the graduate program with regular status are assumed to have a working knowledge of undergraduate calculus, differential equations, linear algebra (or matrix theory), and maturity in the language of advanced calculus (at the level of MAA 4226). Students who are not adequately prepared in one or more of these areas can select appropriate courses from the undergraduate curriculum to make up such deficiencies. Such courses, unless specially approved, do not count toward the graduate degree.

Application Deadlines

Mathematics PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Qiyu Sun
Professor
Program Director
qiyu.sun@ucf.edu
407-823-4839
PO Box 161364

Mathematics PhD

Financial Mathematics

TRACK DESCRIPTION

The Financial Mathematics track in the Mathematics PhD program is designed to prepare students for research and leadership positions in industry, government, non-governmental organizations, and academia requiring employment of financial mathematics.

CURRICULUM

The Mathematics PhD program consists of at least 75 credit hours of course work beyond the bachelor's degree, of which a minimum of 48 hours of formal course work, exclusive of independent study, are required. The program requires 36 credit hours of core courses and 15 credit hours of dissertation research (7980).

Total Credit Hours Required:

75 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—36 Credit Hours

The remaining credit hours consist of additional dissertation research (7980 or 7919), at least 12 credit hours of regular classroom elective courses, and at most 12 credit hours of independent study or independent directed research. Students who pass the qualifying examination may substitute some of the core courses with the approval of the adviser and the graduate program director.

All students are required to complete the following courses with grade of "B" or better.

- MAA 5228 Analysis I (3 credit hours)
- MAA 6229 Analysis II (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)
- MAP 5XXX Differential Equations for Financial Mathematics (3 credit hours)
- MAP 5XXX Computational Methods for Financial Mathematics I (3 credit hours)
- MAP 5XXX Financial Mathematics I (3 credit hours)
- MAP 6385 Applied Numerical Mathematics (3 credit hours)
- MAP 6XXX Financial Mathematics II (3 credit hours)
- MAP 6XXX Computational Methods for Financial Mathematics II (3 credit hours)
- MAP 6XXX Risk Management for Financial Mathematics (3 credit hours)
- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours)
- STA 6857 Applied Time Series Analysis (3 credit hours)

Elective Courses—24 Credit Hours

Elective courses require the approval of the adviser and the graduate program director; up to 12 credit hours of elective courses may be taken outside the department. At least one-half of the program courses must be taken at the 6000 level. At least 12 hours of elective course work must be formal course work, exclusive of independent study.

Electives are chosen in consultation with the student's advisory committee and may be chosen from the suggested options: Discrete Mathematics, General Applied Mathematics, Mathematical Computer Tomography, Image Processing and Computer Graphics, Mathematical Finance, Mathematical Optics, Mathematical Physics, Pure Mathematics, Rational Mechanics, Signal Analysis, and Mathematical Statistics. A list of elective course options can be obtained from the graduate program director.

Courses that are taken outside the Mathematics department must be approved by both the adviser and graduate program director. These courses are selected in consultation with the student's advisory committee.

Dissertation—15 Credit Hours Minimum

- MAP 7980 Dissertation Research (15 credit hours minimum)

After passing the candidacy examination and meeting the other requirements that are required for admission to candidacy, the student can register for Doctoral Dissertation (MAP 7980). A minimum of 15 Doctoral Dissertation credit hours are required for the degree.

Qualifying Examination

The qualifying/comprehensive examination is based on the core course work. To continue in the PhD program, students must pass the examination at the PhD level. Two attempts are permitted. The examination will be administered twice a year: one in the Fall semester and the other in the Spring semester. To take the examination, students must have earned a "B" or better in each core course, must have a minimum grade point average of 3.0 (out of 4.0) in the program, or must obtain permission from the graduate program director. Students will normally take the examination after the first year and are expected to have passed it by the end of the second year of study, unless a written request for a postponement has been approved by the Graduate Committee at least two months before the examination date. The student must pass the Qualifying Examination in at most two attempts.

It is strongly recommended that the student select a dissertation adviser by the completion of 18 credit hours of course work, and it is strongly recommended that the student works with the dissertation adviser to form a dissertation committee within two semesters of passing the Qualifying Examination.

Candidacy Examination

The Candidacy Examination consists of a written examination based on the materials from two selected two-semester sequence courses taken by the students. A committee formed or selected by the Graduate Committee or the graduate program director is responsible for preparing and grading the written examinations.

Each sequence that is selected for the candidacy examination must be approved by the dissertation adviser, the dissertation committee, and the graduate program director. Students in the Financial Mathematics Track will ordinarily select one of the sequences for their candidacy examination to be MAP 5XXX/MAP 6XXX Financial Mathematics I and II.

The Candidacy Examination can be attempted after passing the qualifying examination. The Candidacy Examination must be completed within three years after passing the qualifying examination. A student must successfully pass the Candidacy Examination within at most two attempts.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Dissertation Proposal Examination

After passing the candidacy examination, the student will prepare a dissertation proposal and orally present it to the dissertation advisory committee for approval. The proposal will include a description of the research performed to date and an agenda for the research planned to be completed for the dissertation. In addition to standards of correctness, indicating a suitable level of mastery of the material of the area of the dissertation, and suitability of the proposed dissertation topic, the presentation must meet current standards for professional presentations within the discipline of mathematics. For the successful completion of the Dissertation Proposal Examination, the presentation must be judged as passing the requirements for the examination by the majority of the dissertation committee. This exam must be passed within 18 months of passing the candidacy examination and not later than the end of the sixth year of graduate study. A candidate must pass this examination within at most two attempts.

Dissertation Defense

Upon completion of a student’s research, the student’s committee schedules an oral defense of the dissertation. Most students complete the program within five years after obtaining their bachelor's degree. Students are expected to complete the dissertation in no more than seven years from the date of admission to the program.

INDEPENDENT LEARNING

The required 15 credit hours of dissertation will provide ample opportunities for students to gain the independent learning experience through studying published research papers and deriving, on their own, new and meaningful research results.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's degree in related field.
- Official, competitive GRE score, taken in the last five years.
- Three letters of recommendation.
- Goal statement.
- Résumé.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of the program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Transfer of credits from other programs will be considered on a course-by-course basis. Additionally, students entering the graduate program with regular status are assumed to have a working knowledge of undergraduate calculus, differential equations, linear algebra (or matrix theory), boundary value problems, statistics, computer programming, and maturity in the language of advanced calculus (at the level of MAA 4226). Students who are not adequately prepared in one or more of these areas can select appropriate courses from the undergraduate curriculum to make up such deficiencies. Such courses, unless specially approved, do not count toward the graduate degree.

Application Deadlines

Financial Mathematics	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Qiyu Sun
Professor
Program Director
qiyu.sun@ucf.edu
407-823-4839
PO Box 161364

Mechanical Engineering PhD

PROGRAM DESCRIPTION

The Doctor of Philosophy degree in Mechanical Engineering is intended for students with a master's or a bachelor's degree in Mechanical or Aerospace engineering or a closely related discipline. The doctoral program is intended to allow students to study in depth, with an emphasis on research in Aerospace Systems, Mechanical Systems, or Thermofluids.

CURRICULUM

The Mechanical Engineering PhD program requires a minimum of 72 credit hours beyond a bachelor's degree. This program requires 15 dissertation credit hours minimum and may include up to a total of 12 credit hours combined of directed (XXX 6918) or doctoral research (XXX 7919) and/or of independent study (6908) with an approved Program of Study. At least 39 hours of the program of study must consist of formal coursework, exclusive of directed research (XXX 6918), doctoral research (XXX 7919) and independent study (XXX 6908). The rest of the hours can be chosen by the student in consultation with the adviser and the dissertation committee and with the approval of the graduate program coordinator. Details about this program are located in the Mechanical Engineering PhD Handbook.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Students entering the program with a master's degree are required to complete 42 credit hours minimum, of which 15 credit hours minimum must be formal coursework, exclusive of directed research (XXX 6918), doctoral research (XXX 7919), and independent study (XXX 6908), and 15 credit hours minimum of dissertation research (XXX 7980). No more than 12 credit hours combined of directed (XXX 6918) or doctoral research (XXX 7919) and/or independent study (XXX 6908) may be taken toward fulfilling the degree program of study coursework requirements.

Students entering the program with a bachelor's degree are required to complete 72 credit hours minimum, of which 39 credit hours minimum must be formal course work, exclusive of directed research (XXX 6918), doctoral research (XXX 7919), and independent study (XXX 6908), and 15 credit hours minimum of dissertation research (XXX 7980). No more than 12 credit hours combined of directed (XXX 6918) or doctoral research (XXX 7919) and/or independent study (XXX 6908) may be taken toward fulfilling the degree program of study coursework requirements.

The rest of the hours in the PhD program can be chosen by the student in consultation with the adviser and the dissertation committee and with the approval of the Graduate Coordinator. These credit hours may include doctoral directed research hours or doctoral dissertation hours.

Unless a completed (signed) program of study itemizing the study plan is approved prior to the end of the first semester of studies, the Graduate Director of the MMAE department may choose not to accept any part of the coursework (including independent studies and/or directed research) taken by the student on a program of study subsequently submitted by the student.

Admission to doctoral status requires that the student (1) pass a PhD Qualifying Examination, (2) establish a Doctoral Advisory Committee and (3) submit a departmentally approved Program of Study. These steps are normally completed within the first year of study beyond the master's degree.

Additionally, all students pursuing the doctoral program must enroll in the following course:

- EML 5090 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of four times during their graduate career in the doctoral program. Students must completete the EML 5936 seminar course twice prior to taking the candidacy exam and twice after completing the candidacy exam. The students must also complete the course with a satisfactory (S) grade in all attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

Elective Courses—57 Credit Hours

- May include up to a total of 12 credit hours combined of Directed (XXX 6918) or Doctoral Research (XXX 7919) and/or of Independent Study (6908)
- At least 45 credit hours must be formal coursework, exclusive of independent study, doctoral research and/or directed research.

Dissertation—15 Credit Hours

- EML 7980 (15 credit hours minimum)

Examinations

In addition to the Qualifying Examination discussed above, the student must pass a Candidacy Examination and a Dissertation Defense Examination. The Candidacy Examination is taken near the end of the course work and consists of a written and oral presentation of a research proposal. The MMAE department requires that a PhD student submits his/her candidacy exam the academic semester immediately following his/her successfully passing the PhD Qualifying Exam. The Dissertation Defense Examination is an oral examination taken in defense of the written dissertation. The College of Engineering and Computer Science requires that all dissertation defense announcements are approved by the student's advisor and posted on the college's website and on the Events Calendar of the College of Graduate Studies website at least two weeks before the defense date.

More information on these examinations and other requirements of the PhD program are contained in the Mechanical Engineering PhD Handbook.

Dissertation Committee

The doctoral committee must consist of a minimum of five members: three must be graduate faculty members from within the student's department, and one must be at large from outside the Mechanical, Materials and Aerospace Engineering Department. The committee Chair must be a member of the graduate faculty approved to direct dissertations. Joint faculty members serve as department-faculty committee members as well as chairs of dissertation committees. Adjunct faculty and off-campus experts, if approved graduate faculty scholars, may serve as the outside-the-college person in the committee. Program areas may further specify additional committee membership. The UCF College of Graduate Studies reserves the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

All members vote on acceptance or rejection of the dissertation proposal and the final dissertation. The dissertation proposal and final dissertation must be approved by a majority of the advisory committee.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours (enrollment in dissertation hours begins the semester following the completion of these requirements). Evidence of meeting these requirements must be received by the College of Graduate Studies by the day before the first day of classes for the semester in which a student wishes to enroll in dissertation hours.

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the written dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved Graduate Faculty and Graduate Faculty Scholars.
- Submission of an approved program of study.

Equipment Fee

Students in the Mechanical Engineering PhD program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 per semester.

MAE Department Graduate Seminar Requirement

The MAE Graduate seminar is a zero (0) credit hour (S/U) course that is offered each fall and spring academic semesters. **Prior to graduation**, all MAE graduate students who are pursuing a PhD dissertation are required to register, participate, and receive a satisfactory (S) for four (4) semesters of MAE Graduate seminar, with at least two of these taken prior to candidacy.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of the student's candidacy and dissertation defense examinations.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's and bachelor's degree in Mechanical or Aerospace Engineering or a closely related field, résumé, three letters of recommendation, and a statement about educational, research, and professional career objectives.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Bachelor's or Master's degree in Mechanical or Aerospace Engineering or a closely related discipline.
- Résumé.
- Statement about educational, research, and professional career objectives.
- Three letters of recommendation.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the graduate program director for more information.

Application Deadlines

Mechanical Engineering PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Modeling and Simulation PhD

PROGRAM DESCRIPTION

Simulation is the quintessential utility tool. In one way or another, just about every engineering or scientific field uses simulation as an exploration, modeling, or analysis technique. Simulation is not limited to engineering or science. Simulation is used in training, management, and concept exploration and involves constructing human-centered, equipment-centered, and/or stand-alone computer-based models of existing as well as conceptual systems or processes. The purpose of simulation is to evaluate the behavior of the human, organization, equipment, and/or systems under study through the evaluation of output from the corresponding simulation construct. Because of the scale and complexity of modeling and simulation, practitioners have developed both generalized and specialized skills.

Input from industry and government M&S users and developers has been instrumental in identifying the key competencies for M&S professionals and has been critical to the development of this curriculum. The curriculum is designed to provide a broad overall perspective of the developing simulation industry and an awareness of the economic considerations. Upon completion of the program, graduates will have the diverse training necessary to enable them to work in varied capacities in government agencies, or in the defense, service, entertainment, and manufacturing industries.

Students in the Modeling and Simulation graduate program have often focused their study and research efforts in one or more of the following research areas:

Behavioral Cybersecurity

The Behavioral Cybersecurity in M&S research area has attracted those who wish to gain expertise in the latent cognitive aspects of security for computer systems, servers, mobile devices, networks, software, and network-enabled devices. Typical problem areas for behavioral aspects of cybersecurity include insider threats, hacker motivations, user training and education, digital ethics, cyber law and policy, senior leader education, and cyber workforce development and education. Typical courses include Behavioral Aspects of Cybersecurity, Cyber Operations Lab, Emerging Cyber Issues, Digital Ethics, Human Cognition and Learning, Cyber Crime and Criminal Justice, and Data Mining Methodology I.

Human Systems

The Human Systems in M&S research area has attracted those who wish to gain expertise in the content and techniques of human behavior in simulation systems, including human factors, human-computer interaction, virtual worlds, statistical and quantitative procedures, experimental design, computer techniques, and other research methodologies. Typical problem areas for R&D include human-in-the-loop simulation; team performance under stress; and use of visual, audio, haptic, and other sensory input/output modalities to coordinate human-machine activities. Typical courses include Human Factors, Training Systems Engineering, Human Computer Interaction, Intelligent Simulation, and Distributed Learning.

Computer Visualization

Computer Visualization in M&S is a research area that attracts those who wish to gain expertise in technical aspects of computer graphic systems, virtual environments, and human-centered simulation systems applying the state-of-the-art in computer graphics and other human-interface technologies. Typical courses include Human Computer Interaction, Computer Graphics Systems, Computer Vision, Machine Perception, Human-Virtual Environment Interaction, and Sensation and Perception. Students in this research area typically have an interest in the area of Emerging Media, which focuses on the development of new forms of interactive media and the creation of story-driven content for them such as interactive works of art, electronic games, virtual reality, the Internet, portable devices and mobile applications, wearable computers, etc.

Simulation Modeling and Analysis

The Simulation Modeling and Analysis research area attracts those who desire to gain expertise in using simulation as a optimization tool for effective design, planning, analysis, and decision-making. The emphasis of this area is on problem definition, model formulation, design of simulation experiments, and model-based analysis. This area attracts those who seek to develop skills in the application of advanced quantitative methods to modeling and simulation. Building on backgrounds in operations research, mathematics or statistics, they should gain experience in modeling and simulation through the application of optimization, mathematical and statistical theory to build multidisciplinary simulation models and conducting rigorous simulation experimentation. A graduate will be prepared to work with corporate and government decision-makers as they model and evaluate the impacts of proposed policies and system designs. Typical courses include Engineering Statistics, Statistical Aspects of Digital Simulation, and Mathematical Modeling, Discrete Systems Simulation, Object-Oriented Simulation, Experimental Design, and Quantitative Aspects of Modeling and Simulation.

Simulation in Healthcare

Simulation in Healthcare is a fast growing new area in M&S. Issues related to bringing down the cost of healthcare and reducing costly medical errors are generating many new opportunities related to systems analysis, communication between healthcare providers and patients, and simulation-based training, to name a few. Currently a disproportionate amount of the US economy goes to healthcare, at least twice as much as the average of the 25 richest nations, and health outcomes in the US place the country near the bottom of this group of countries. M&S can contribute significantly towards improving this situation. Typical courses include Discrete Systems Simulation, Experimental Design, and Object-Oriented Simulation, Engineering Statistics, Human Computer Interaction.

Interactive Simulation and Intelligent Systems

Interactive Simulation and Intelligent Systems research attracts those who wish to pursue or are currently pursuing careers in the training simulation/simulator industries. Graduates specializing in this research area typically are interested in creating designs for simulators and simulator-based training systems and to apply expert systems and other intelligent systems in a simulation setting. Typical courses include Training Systems Engineering, Simulation of Real-Time Processes, and Intelligent Simulation.

Simulation Infrastructure

The research area of Simulation Infrastructure attracts those who wish to gain an in-depth understanding of the basic components of simulation systems and their patterns of configuration and communication, including hardware and software issues. They will gain experience in the development of distributed simulation and training environments. Graduates should be able to implement such systems or manage a team capable of developing such systems. Typical courses include Performance Models of Computers and Networks, Simulation Design and Analysis, High Performance Computer Architecture, and Analysis of Computer and Communication Systems. Simulation Management: Simulation Management research area attracts those who wish to gain expertise in the management of projects related to modeling, simulation, and training (MS&T). Graduates who focus in this area of study should be prepared to manage such projects for military agencies or MS&T companies. Typical courses include Environment of Technical Organizations, Modeling and Simulation of Real-Time Processes, Management Information Systems, and Project Engineering.

Simulation Management

Simulation Management research area attracts those who wish to gain expertise in the management of projects related to modeling, simulation, and training (MS&T). Graduates who focus in this area of study should be prepared to manage such projects for military agencies or MS&T companies. Typical courses include Environment of Technical Organizations, Modeling and Simulation of Real-Time Processes, Management Information Systems, and Project Engineering.

CURRICULUM

The Modeling and Simulation PhD requires a minimum of 72 credit hours of coursework beyond the bachelor's degree, including a minimum of 15 dissertation hours.

The M&S PhD program requires 15 credit hours of 5 required core courses. These core courses will provide an interdisciplinary framework for all students.

The remaining 42 credit hours may consist of additional unrestricted elective courses and research hours. At least 27 hours of the total program must consist of formal coursework, exclusive of independent study.

Total Credit Hours Required:

42 Credit Hours Minimum beyond the Master's Degree

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Students may fulfill the restricted elective requirements through the courses chosen in the restricted core. Such students will meet the total credit hour requirements with additional unrestricted elective courses.

Required Courses—15 Credit Hours

Core—15 Credit Hours

- IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)
- DIG 5876 Quantitative Aspects of Modeling and Simulation (3 credit hours)*
- IDS 6148 Human Systems Integration for Modeling and Simulation (3 credit hours) or EIN 6258 Human Computer Interaction (3 credit hours) or EXP 6541 Advanced Human-Cmputer Interaction (3 credit hours)
- IDS 6145 Simulation Techniques (3 credit hours)
- IDS 6262 Research Design for Modeling and Simulation (3 credit hours)

*Students that are deemed to have strong mathematical preparation can be waived from the requirement of Quantitative Methods (DIG 5876) and can instead take an additional elective course so long as the total program credit hours are met. This determination will be made by the M&S Graduate Program Office.

Restricted Elective—3 Credit Hours

Students must select an elective course from the Modeling and Simulation Graduate Program. Appropriate courses include those that follow. Others may be added over time with Program Director approval.

- IDC 5602 Cybersecurity: A Multidisciplinary Approach (3 credit hours)
- IDC 6601 Behavioral Aspects of Cybersecurity (3 credit hours)
- IDC 6700 Interdisciplinary Approach to Data Visualization (3 credit hours)
- IDS 5142 Modeling and Simulation for Instructional Design (3 credit hours)
- IDS 6146 Modeling and Simulation Systems (3 credit hours)
- IDS 6149 Modeling and Simulation for Test and Evaluation (3 credit hours)
- IDS 6916 Simulation Research Methods and Practicum (3 credit hours)
- IDS 6938 Intelligent Tutoring System (ITS) Design (3 credit hours)

Unrestricted Electives—39 Credit Hours

All M&S PhD degree program students must take at least 39 credit hours of unrestrictive elective courses that reflect at least two disciplines that support the student’s area of graduate study.

A student must carefully select a set of courses in order to design an appropriate plan of coursework. The purpose of the courses is to ensure that students have depth in their research area as well as have breadth in the interdisciplinary area of modeling and simulation. The set of courses should also support a student's area of graduate study and to meet the specific educational needs, goals and objectives of that student.

Unrestricted electives must consist of at least 9 credit hours of formal courses, excluding independent study. The remaining credits may consist of additional coursework, directed research, independent study, and additional dissertation as advised appropriately by faculty adviser and/or program director.

Modeling and Simulation PhD Elective Courses

In addition to successfully completing the core courses for the M&S PhD program, students are required to carefully select electives with the guidance of a Program Director or faculty adviser. Elective choices should be made with the intent to strengthen a research interest and/or area of focus in order to meet the individual student's educational goals and objectives.

Listed below are suggested courses in various areas of focus or specialization. These course groupings are mere guides, are not exhaustive and are only meant to assist with advising and course selection in order to meet the individual student's educational goals and objectives. They are not intended to restrict elective choices among focus areas as we strongly encourage Modeling and Simulation students to maintain an interdisciplinary approach to their graduate studies.

If a student identifies another UCF course which may be of value to his/her M&S research area, but is not already identified in a list below, that student may request approval from the Graduate Program Director for the course to be used as an elective in the Graduate Plan of Study. All such requests must be made in advance of enrolling in the course.

Those electives categorized as "General" and "Fundamentals of Modeling and Simulation" would be appropriate for all students regardless of interest area. The remaining categories are grouped by area of interest.

General

- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6891 IEMS Research Methods (3 credit hours)
- IDS 5907 Independent Study (variable)
- IDS 5917 Directed Research (variable)
- IDS 6908 Independent Study (variable)
- IDS 6918 Directed Research (variable)
- IDS 6946 Internship (variable)
- IDS 7919 Doctoral Research (variable)
- PHI 5340 Research Methods in Cognitive Sciences (3 credit hours)
- PSY 6216C Research Methodology (4 credit hours)
- STA 5205 Experimental Design (3 credit hours)

Fundamentals of Modeling and Simulation

- DIG 5876 Quantitative Aspects of Modeling and Simulation (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6532 Object-Oriented Simulation (3 credit hours)

- IDC 6700 Interdisciplinary Approach to Data Visualization (3 credit hours)
- IDS 6146 Modeling and Simulation Systems (3 credit hours)
- IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)
- IDS 6149 Modeling and Simulation for Test and Evaluation (3 credit hours)
- IDS 6950 Modeling and Simulation Capstone Report Planning (1 credit hour)
- IDS 6XXX Simulation Techniques (3 credit hours)

Behavioral Cybersecurity

- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)
- CAP 6135 Malware and Software Vulnerability Analysis (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- CJE 6688 Cyber Crime and Criminal Justice (3 credit hours)
- CNT 5008 Computer Communication Networks Architecture (3 credit hours)
- CNT 5410L Cyber Operations Lab (3 credit hours)
- CNT 6519 Wireless Security and Forensics (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- DIG 5876 Quantitative Aspects of Modeling and Simulation (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- EXP 5256 Human Factors I (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- IDC 5602 Cybersecurity: A Multidisciplinary Approach (3 credit hours)
- IDC 6600 Emerging Cyber Issues (1 credit hour)
- IDC 6601 Behavioral Aspects of Cybersecurity (3 credit hours)
- IDS 6916 Simulation Research Methods and Practicum (3 credit hours)
- INR 6365 Seminar on Intelligence (3 credit hours)
- INR 6366 The Intelligence Community (3 credit hours)
- PHI 6938 ST: Digital Ethics (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 5825 Stochastic Processes and Applied Probability Theory (3 credit hours)

Human Systems

- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- EIN 5248C Ergonomics (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)
- EME 6458 Virtual Teaching and the Digital Educator (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- EME 6646 Learning, Instructional Design, and Cognitive Neuroscience (3 credit hours)
- EXP 5208 Sensation and Perception (3 credit hours)
- EXP 5256 Human Factors I (3 credit hours)
- EXP 6255 Human Performance (3 credit hours)
- EXP 6257 Human Factors II (3 credit hours)
- EXP 6258 Human Factors III (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- EXP 6541 Advanced Human Computer Interaction (3 credit hours)
- IDS 6148 Human Systems Integration for Modeling and Simulation (3 credit hours)

- IDS 6149 Modeling and Simulation for Test and Evaluation (3 credit hours)
- PHI 5225 Philosophy of Language (3 credit hours)
- PHI 5325 Topics in Philosophy of Mind (3 credit hours)
- PHI 5327 Topics in Cognitive Sciences (3 credit hours)
- PHI 5329 Philosophy of Neuroscience (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)

Computer Visualization

- CAP 5725 Computer Graphics I (3 credit hours)
- CAP 6411 Computer Vision Systems (3 credit hours)
- CAP 6412 Advanced Computer Vision (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- CDA 5106 Advanced Computer Architecture (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EEL 6843 Machine Perception (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- IDC 6700 Interdisciplinary Approach to Data Visualization (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 6118 Introduction to Nonlinear Dynamics (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)

Quantitative Methods for Simulation, Modeling and Analysis

- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- DIG 5876 Quantitative Aspects of Modeling and Simulation (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 5892 Continuous System Simulation II (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- IDC 6700 Interdisciplinary Approach to Data Visualization (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 6111 Mathematical Statistics (3 credit hours)
- MAP 6118 Introduction to Nonlinear Dynamics (3 credit hours)
- MAP 6207 Optimization Theory (3 credit hours)
- MAP 6385 Applied Numerical Mathematics (3 credit hours)
- MAP 6407 Applied Mathematics I (3 credit hours)
- MAP 6408 Applied Mathematics II (3 credit hours)
- MAP 6445 Approximation Techniques (3 credit hours)

- MAT 5712 Scientific Computing (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 5825 Stochastic Processes and Applied Probability Theory (3 credit hours)
- STA 6236 Regression Analysis (3 credit hours)
- STA 6246 Linear Models (3 credit hours)
- STA 6326 Theoretical Statistics I (3 credit hours)
- STA 6327 Theoretical Statistics II (3 credit hours)
- STA 6329 Statistical Applications of Matrix Algebra (3 credit hours)
- STA 6704 Data Mining Methodology II (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)

Simulation in Healthcare

- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- HUM 5802 Applied Contemporary Humanities (3 credit hours)
- NGR 6717 Introduction to Healthcare Simulation (3 credit hours)
- NGR 6771L Healthcare Simulation Practicum (3 credit hours)
- NGR 6794 Organizational Leadership and Operations in Healthcare Simulation (3 credit hours)
- NGR 6978 Healthcare Simulation Capstone Project (3 credit hours)
- PHI 5329 Philosophy of Neuroscience (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- SPA 6417 Cognitive/Communicative Disorders (3 credit hours)
- SPA 6451 Theory and Clinical Aspects Cognitive-Comm Disorders in Traumatic Brain Injury (3 credit hours)

Interactive Simulation and Intelligent Systems

- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 5610 Machine Learning (3 credit hours)
- CAP 5636 Advanced Artificial Intelligence (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6647 Intelligent Simulation (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- IDS 6149 Modeling and Simulation for Test and Evaluation (3 credit hours)

Simulation Infrastructure

- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)

- CDA 5106 Advanced Computer Architecture (3 credit hours)
- CDA 6107 Parallel Computer Architecture (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- CNT 5008 Computer Communication Networks Architecture (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- EEL 6885 Software Engineering Quality Assurance Methods (3 credit hours)
- ESI 6551 Systems Architecting (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)

Simulation Management

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- EIN 5356 Cost Engineering (3 credit hours)
- EIN 6182 Engineering Management (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6551 Systems Architecting (3 credit hours)
- IDC 6700 Interdisciplinary Approach to Data Visualization (3 credit hours)
- IDS 6149 Modeling and Simulation for Test and Evaluation (3 credit hours)
- ISM 6217 Advanced Database Administration (3 credit hours)
- ISM 7027 Systems Support of Organizational Decision Making (3 credit hours)

Waived Credits

The doctoral program will allow up to 30 credit hours to be waived from an earned master's degree.

Dissertation—15 Credit Hours Minimum

- XXX 7980 Dissertation Research (15 credit hours minimum)

Qualifying Examination

The M&S Qualifying Examination (QE) consists of a written paper and an oral presentation to an Evaluation Committee. Detailed information regarding the M&S QE is provided at this link: http://www.ist.ucf.edu/grad/Forms/phd-milestones.pdf.

Dissertation Adviser and Dissertation Advisory Committee

Students have the responsibility to select a Dissertation Adviser from a list of faculty authorized to direct dissertations. The student and the Dissertation Adviser, then, must identify and select the other members of the student's Dissertation Advisory Committee. The Dissertation Advisory Committee consists of a minimum of four members.

All committee members should hold a doctoral or terminal degree and be in fields related to the dissertation topic, and at least three members must be regular Modeling and Simulation graduate faculty (one to serve as chair) from at least two UCF colleges. At least one member of the committee must have served as a committee member on a prior M&S Thesis or Dissertation Advisory Committee. In some cases, with approval from the Program Director, a committee member may serve as co-chair of the committee. The M&S Program Director can assist students with selection of their adviser as well as with committee formation, additions, and deletions. The UCF College of Graduate Studies has the right to review appointments to advisory committees, place a representative on any advisory committee, or appoint a co-adviser.

Candidacy Examination

The Candidacy Examination evaluates the student's preparation to perform independent research to undertake the research in the student's dissertation topic. A student may sit for the Candidacy Examination upon:

1. passing the Qualifying Examination;
2. completing all conditions placed as a result thereof; and
3. completing all but 6 credit hours or less of the courses prescribed in the student's Graduate Plan of Study.

The Candidacy Examination includes all of the following:

The Dissertation Research Proposal

The research proposal is a written exposition of a academic or scientific topic and specific research question(s)/hypothesis(es) that is/are developed by the student; the research proposal identifies the chosen area(s) of research and offers convincing support of the need for the research investigation being proposed. Specifically, the research proposal includes at least the following components:

- ***Motivation of the research investigation***. Background and the motivation for the pursuit of the dissertation topic should be clearly and thoroughly explained including the historical and modern view of the topic and the rationale and need for the proposed research. The specific research questions(s)/hypothesis(es) that is/are being addressed and the research objectives must be described;
- ***Literature review on the topic of the dissertation***. A good literature review expands upon the reasons behind selecting the research question(s)/hypothesis(es). The review is an extensive summary and synopsis of the area(s) of research, and it provides a critical and in-depth evaluation of previous related research on the topic. It is an abstracting and synthesis of previous research, and the review explains how it integrates into the proposed research investigation. All sides of an argument must be clearly explained, to avoid bias, and areas of agreement and disagreement should be highlighted; and
- ***A detailed proposed methodology for conducting the research***. This ethodology must be consistent with the requirements of the field. It is customary to include any preliminary modeling and results in this discussion to show the potential of strengths and weaknesses of the methodology.

An oral defense of the Dissertation Research Proposal

This defense includes a formal, oral presentation of the written Dissertation Research Proposal before the Dissertation Advisory Committee.

A refereed published or accepted for publication manuscript

Students preparing for the Candidacy Examination should have at least one refereed published or accepted for publication manuscript directly related to the dissertation research, and the student must be a significant contributor to the work and the paper. If the refereed manuscript is not published, it should be fully accepted, and not conditionally accepted. This manuscript may be a journal or proceedings publication from a reputable conference.

All members vote on acceptance or rejection of the Dissertation Research Proposal and the Dissertation Proposal must be approved with at most one dissenting member of the advisory committee. A student is normally given one opportunity to pass the oral defense of the Dissertation Research Proposal, but the M&S Program Director, upon the recommendation of the student's Dissertation Advisory Committee, may approve at most a second attempt.

Admission to Candidacy

In summary, the following are required for a student to be admitted to candidacy and subsequently enroll in dissertation hours:

- Completion of all course work, except for dissertation hours;
- The Dissertation Advisory Committee is formed, consisting of approved graduate faculty and graduate faculty scholars;
- Submission of an approved Graduate Plan of Study;
- Successful completion of the Candidacy Examination (see Candidacy Examination section above for details).

Dissertation Defense

The Dissertation Defense is a formal, oral examination of the written dissertation before the Dissertation Advisory Committee. All members vote either "Pass" or "Fail" of the written dissertation, and the dissertation and Dissertation Defense must be approved with at most one dissenting member of the advisory committee. A student is normally given one opportunity to pass the oral defense of the dissertation, but the M&S Program Director, upon the recommendation of the student's Dissertation Advisory Committee, may approve at most a second attempt.

Plan of Study

After admission to the PhD program, students should file a Graduate Plan of Study (GPS) with the Modeling and Simulation Graduate Program Office.

The purpose of the GPS is to design an appropriate program of coursework to support a student's area of graduate study and to meet the specific educational needs, goals and objectives of that student. The coursework must be selected to form a unified, cohesive plan of study. All graduate credit in a doctoral program must be at 5000 level or higher, and at least one-half of the credit hours used to meet program requirements must be in 6000-level or 7000-level courses.

The GPS should be developed under the supervision of the Dissertation Adviser(s) and members of the Dissertation Advisory Committee, although initially it may be constructed under the supervision of the M&S Graduate Program Office.

Changes in the Graduate Plan of Study can be made (due to course offering deletions, schedule conflicts, etc.) and with the approval of the M&S Graduate Program Office.

Programs of Study for students seeking a doctoral degree should be on file with the College of Graduate Studies by the end of the third major term of enrollment (based on full-time enrollment) and must be on file prior to the change to candidacy status.

Equipment Fee

Full-time students in the Modeling and Simulation PhD program pay a $27 equipment fee each semester that they are enrolled. Part-time students pay a $13.50 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

The dissertation is a project that constitutes independent learning conducted under the guidance of a Dissertation Advisory Committee. Three must be members of the Modeling and Simulation graduate faculty. All members vote on acceptance or rejection of the Dissertation Research Proposal and the Dissertation Proposal must be approved with at most one dissenting member of the advisory committee. A student is normally given one opportunity to pass the oral defense of the Dissertation Research Proposal, but the M&S Program Director, upon the recommendation of the student's Dissertation Advisory Committee, may approve at most a second attempt.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, résumé, goal statement, three letters of recommendation, and a writing sample.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Official, competitive score on the GRE taken within the last five years
- Résumé or Curriculum Vitae
- Goal statement

    - The goal statement should discuss all relevant professional background and any previous research experience. The statement should explain the motivation behind the pursuit of a Doctoral degree in Modeling and Simulation. Future career goals after the completion of the applicant's doctoral study should be discussed.
    - Most importantly, the applicant must clearly describe the particular area(s) of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential dissertation advisor.
    - The goal statement should between 500 and 1,000 words.
- Three letters of recommendation
    - The letters of recommendation should be from faculty members, university administrators and employers. The letters, which must be current to the application, should address the educational and career goals of applicant. The letter writers should also know the applicant well enough to discuss the applicant's capacity to perform, excel and succeed in a graduate program. Letters for PhD applicants must discuss the applicant's ability to perform graduate-level research. At least two of the letters should be furnished by college or university professors who are acquainted with the applicant.

Applications are accepted for the fall and spring terms only.

Readmission

Applicants who are reapplying for admission need not resubmit transcripts and GRE scores if the transcripts and scores are previously filed with UCF. However, the following application requirements do need to be current for the new application for readmission:

- Résumé/Curriculum Vitae
- Goal Statement
- Letters of Recommendation

Prerequisites

Students who enter the Modeling and Simulation Program are expected to have an academic and/or work background that has prepared them in mathematics (introductory calculus and probability and statistics) and computer literacy, including proficiency with word processing, spreadsheet, and database programs, and, preferably, familiarity with at least one higher order programming language (e.g., C/C++, Visual Basic, Java, etc.). Students with undergraduate or graduate degrees in Engineering, Computer Science, or Mathematics will generally have this background.

For students with less technical academic preparation, the core course DIG 5876 Quantitative Aspects of Modeling and Simulation, will prepare them for several, but not all, aspects of the program. However, some students may need a number of prerequisite courses in Mathematics, Statistics, and Computer Science in order to pursue one or more areas of study.

Application Deadlines

Modeling and Simulation PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 15	Jul 15 (Fall 17)		
International Applicants	Dec 15	Dec 15		
International Transfer Applicants	Dec 15	Dec 15		

CONTACT INFO

Sabrina Gordon MA
Program Staff
sabrina.gordon@ucf.edu
407-882-1407
Partnership 2 Building, Room 131D

Nursing PhD

- BSN to PhD

PROGRAM DESCRIPTION

The Doctor of Philosophy program in Nursing is designed to prepare students for positions as nursing faculty members, leaders in the application of innovative technologies to nursing education and clinical care, executive leaders in healthcare systems, and scientists who contribute to the body of nursing knowledge through their research.

The doctoral program in Nursing prepares nurse scholars to possess a body of knowledge about theory, processes and methods of inquiry in the discipline of nursing. The program allows students to contribute to disciplinary and interdisciplinary knowledge in nursing and healthcare from the basis of sound conceptual, methodological, and ethical decision-making.

Program Objectives

At the completion of the PhD in Nursing Program, graduates will be able to:

- Conduct research to generate a body of knowledge and test theories that advance nursing science.
- Develop a program of scholarship that integrates research, teaching, leadership, and service to the profession.
- Contribute to interdisciplinary solutions that advance health care in a global society.

CURRICULUM

For the Nursing PhD, total graduate credit must equal or exceed 72 credit hours. Students take 36 credit hours of required courses that focus on foundation, knowledge development and research methods, 15 dissertation credit hours, and 9 credit hours of electives allowing students to gain additional expertise in the area chosen for their dissertation. Details about this program are located in the Nursing PhD Handbook.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Students in the Nursing PhD program must complete all course work with GPA of 3.0 ("B") or better, a satisfactory dissertation and defense of dissertation.

Required Courses—36 Credit Hours

Foundation Areas—9 Credit Hours

- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7805 Doctoral Scholarship (3 credit hours)
- NGR 7806 Doctoral Scholarship II (3 credit hours)

Knowledge Development—9 Credit Hours

- NGR 7115 Philosophical and Theoretical Foundations of Nursing Science (3 credit hours)
- NGR 7123 Concept Development in Nursing (3 credit hours)
- NGR 7939 Dissertation Seminar (3 credit hours)

Research Methods—18 Credit Hours

- NGR 7815 Qualitative Methods in Nursing Research and Healthcare I (3 credit hours)
- NGR 7817 Quantitative Methods for Nursing and Healthcare I (3 credit hours)
- NGR 7818 Quantitative Methods for Nursing and Healthcare II (3 credit hours) or NGR 7808 Qualitative Methods in Nursing and Healthcare II (3 credit hours)
- NGR 7807 Research Approaches and Designs for Nursing and Healthcare (3 credit hours)
- NGR 7823 Psychometrics and Measurement for Nursing Research (3 credit hours)
- NGR 7919 Doctoral Research (3 Credit Hours)

Elective Courses—9 Credit Hours Minimum

The supporting course work is designed to permit students to gain additional expertise and knowledge in the area chosen for the dissertation. These courses may vary from student to student depending upon individual needs or objectives. Course selection should be influenced by the following criteria:

- Increase in understanding of the phenomenon of interest
- Increase in understanding of specific methodologies or analytical techniques relevant to the student's dissertation.
- Exposure to experiences relevant to the phenomenon of interest or methodological elements relevant to the student's dissertation.

The UCF College of Nursing strongly encourages all PhD students to actively seek out interdisciplinary supporting courses including those offered by other disciplines. All supporting courses must be approved by the student's faculty adviser or dissertation committee chairperson.

Dissertation Research—15 Credit Hours Minimum

The dissertation research addresses the design and conduct of research that advances nursing science. Students conduct the dissertation in areas of faculty interest and expertise. Students are required to complete at least 15 credit hours of dissertation and are required to register for 3 credit hours of dissertation each semester until they complete the degree requirements.

- NGR 7980 Dissertation Research (15 credit hours)

Doctoral Research

The course NGR 7919 Doctoral Research is designed for students to gain research experience with a faculty researcher. Students must obtain permission from the faculty member before registering for this course and complete the College of Nursing doctoral research form. The purpose of this course is for students to have an experience with research in addition to that of the dissertation. This course is not to be used as a pilot study for the student's dissertation.

Admission to Candidacy and Examinations

The process for candidacy will start with the appointment of the dissertation advisory committee. The Candidacy Examination has both written and oral components. When these are completed successfully, the student becomes a doctoral candidate and is eligible to enroll in dissertation credits. When candidacy status is obtained, the student must enroll in at least three semester credits of dissertation credit each semester until successful oral defense of the dissertation is made and all graduation requirements are completed. The university requires a minimum of 15 dissertation credits. Post-candidacy status is subject to the rules and regulations of the University of Central Florida Graduate Catalog.

The following are required to enroll in dissertation hours. Evidence that items have been completed must be received by the Graduate College on the Friday before the first day of classes for those who wish to enroll in dissertation hours in that semester:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study (should be finalized by the student's third semester).

Equipment Fee

Full-time students in the Nursing PhD program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 each semester.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning experience.

APPLICATION REQUIREMENTS

In addition to general application requirements, the College of Nursing accepts the most qualified students based on evaluations of the applicant's abilities, past performance, recommendations and match of UCF programs with the applicant's career goals. Applicants must provide a master's or bachelor's degree in nursing from an accredited institution, licensure as a Registered Nurse in the state of Florida, official, competitive GRE score taken within the last five years, an essay, an interview, curriculum vitae, and three letters of recommendation.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Master's and a Bachelor's Degree in nursing from an accredited institution or the equivalent.
- Licensure as a Registered Nurse in the state of Florida. (Does not apply to international applicants).
- Official, competitive GRE score taken within the last five years.
- An essay of no more than 500 words addressing goals for doctoral study to knowledge development for Nursing.
- A personal interview.
- Research interests that match faculty expertise.
- Resume/Curriculum Vitae which reflects prior education, recent clinical accomplishments, any scholarly work (publications and presentations), and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Three letters of recommendation evaluating potential for doctoral study preferably by nursing instructors, nurse employers or nurses with advanced degrees.

The College of Nursing accepts the most qualified students based on evaluations of the applicant's abilities, past performance, recommendations and match of UCF programs with applicant's career goals. Students are admitted to the program in the summer for the program of study.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All PhD students will be responsible for an annual subscription of $66.60 payable directly to ProjectConcert prior to the Fall semester. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Please call the College of Nursing Graduate Office (407) 823-3079 to speak with a doctoral adviser to discuss your goals for doctoral study. It would be very advantageous to discuss the program before you write your essay in the admission application.

Application Deadlines

Nursing PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants				Jan 15
International Applicants				Nov 1
International Transfer Applicants				Dec 15

CONTACT INFO

Donna Felber Neff PhD, RN, FNAP
Associate Professor
Program Director
donna.neff@ucf.ed
407-823-5489
UTWR 465

Nursing PhD

BSN to PhD

TRACK DESCRIPTION

The doctoral program in Nursing prepares nurse scholars to possess a body of knowledge about theory, processes and methods of inquiry in the discipline of nursing. The program allows students to contribute to disciplinary and interdisciplinary knowledge in nursing and healthcare from the basis of sound conceptual, methodological, and ethical decision-making. Students in the BSN to PhD track will have focused support in grant writing for programs such as the National Research Service Award (NRSA).

Program Objectives

At the completion of the PhD in Nursing Program, graduates will be able to:

- Conduct research to generate a body of knowledge and test theories that advance nursing science.
- Develop a program of scholarship that integrates research, teaching, leadership, and service to the profession.
- Contribute to interdisciplinary solutions that advance health care in a global society.

CURRICULUM

The Nursing BSN to PhD program requires a minimum of 75 credit hours beyond a bachelor's degree in Nursing. This program includes 51 credit hours of required courses that focus on foundation, knowledge development and research methods, 15 dissertation credit hours, and 9 credit hours of electives allowing students to gain additional expertise in the area chosen for their dissertation. Details about this program are located in the Nursing PhD Handbook.

Total Credit Hours Required:

75 Credit Hours Minimum beyond the Bachelor's Degree

Students in the Nursing BSN to PhD program must complete all course work with GPA of 3.0 ("B") or better, a satisfactory dissertation and defense of dissertation.

Required Courses—51 Credit Hours

Foundation Areas—12 Credit Hours

- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7805 Doctoral Scholarship (3 credit hours)
- NGR 7806 Doctoral Scholarship II (3 credit hours)
- NGR 7952 Scientific Writing for Nurses and Healthcare Professionals (3 credit hours)

Knowledge Development—9 Credit Hours

- NGR 7115 Philosophical and Theoretical Foundations of Nursing Science (3 credit hours)
- NGR 7123 Concept Development in Nursing (3 credit hours)
- NGR 7939 Dissertation Seminar (3 credit hours)

Research Methods—30 Credit Hours

- NGR 7807 Research Approaches and Designs for Nursing and Healthcare (3 credit hours)
- NGR 7815 Qualitative Methods in Nursing Research and Healthcare I (3 credit hours)
- NGR 7817 Quantitative Methods for Nursing and Healthcare I (3 credit hours)
- NGR 7818 Quantitative Methods for Nursing and Healthcare II (3 credit hours) or NGR 7808 Qualitative Methods in Nursing and Healthcare II (3 credit hours)
- NGR 7823 Psychometrics and Measurement for Nursing Research (3 credit hours)
- NGR 7916 Research Grants Process and Proposal Writing (3 credit hours)
- NGR 7932 Nursing Research Grants Process and Proposal Writing (3 credit hours)
- NGR 7919 Doctoral Research (9 Credit Hours; 3 credit hours taken three times)

Elective Courses—9 Credit Hours Minimum

The supporting course work is designed to permit students to gain additional expertise and knowledge in the area chosen for the dissertation. These courses may vary from student to student depending upon individual needs or objectives. Course selection should be influenced by the following criteria:

- Increase in understanding of the phenomenon of interest
- Increase in understanding of specific methodologies or analytical techniques relevant to the student's dissertation.
- Exposure to experiences relevant to the phenomenon of interest or methodological elements relevant to the student's dissertation.

The UCF College of Nursing strongly encourages all PhD students to actively seek out interdisciplinary supporting courses including those offered by other disciplines. All supporting courses must be approved by the student's faculty adviser or dissertation committee chairperson.

Dissertation Research—15 Credit Hours Minimum

The dissertation research addresses the design and conduct of research that advances nursing science. Students conduct the dissertation in areas of faculty interest and expertise. Students are required to complete at least 15 credit hours of dissertation and are required to register for 3 credit hours of dissertation each semester until they complete the degree requirements.

- NGR 7980 Dissertation Research (15 credit hours)

Doctoral Research

The course NGR 7919 Doctoral Research is designed for students to gain research experience with a faculty researcher. Students must obtain permission from the faculty member before registering for this course and complete the College of Nursing doctoral research form. The purpose of this course is for students to have an experience with research in addition to that of the dissertation.

Admission to Candidacy and Examinations

The process for candidacy will start with the appointment of the dissertation advisory committee. The Candidacy Examination has both written and oral components. When these are completed successfully, the student becomes a doctoral candidate and is eligible to enroll in dissertation credits. When candidacy status is obtained, the student must enroll in at least three semester credits of dissertation credit each semester until successful oral defense of the dissertation is made and all graduation requirements are completed. The university requires a minimum of 15 dissertation credits. Post-candidacy status is subject to the rules and regulations of the University of Central Florida Graduate Catalog.

The following are required to enroll in dissertation hours. Evidence that items have been completed must be received by the Graduate College on the Friday before the first day of classes for those who wish to enroll in dissertation hours in that semester:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study (should be finalized by the student's third semester).

Equipment Fee

Full-time students in the Nursing PhD program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 each semester.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor's Degree in nursing from an accredited institution or the equivalent.
- Licensure as a Registered Nurse in the state of Florida. (Does not apply to international applicants).
- Official, competitive GRE score taken within the last five years.
- An essay of no more than 500 words addressing goals for doctoral study to knowledge development for Nursing.
- A personal interview.
- Research interests that match faculty expertise.
- Resume/Curriculum Vitae which reflects prior education, recent clinical accomplishments, any scholarly work (publications and presentations), and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Three letters of recommendation evaluating potential for doctoral study preferably by nursing instructors, nurse employers or nurses with advanced degrees.

The College of Nursing accepts the most qualified students based on evaluations of the applicant's abilities, past performance, recommendations and match of UCF programs with applicant's career goals. Students are admitted to the program in the summer for the program of study.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $66.60 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Please call the College of Nursing Graduate Office (407) 823-3079 to speak with a doctoral adviser to discuss your goals for doctoral study. It would be very advantageous to discuss the program before you write your essay in the admission application.

Application Deadlines

BSN to PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				Nov 1
International Transfer Applicants				Dec 15

CONTACT INFO

Donna Felber Neff PhD, RN, FNAP
Associate Professor
Program Director
donna.neff@ucf.ed
407-823-5489
UTWR 465

Nursing Practice DNP

- Adult-Gerontology Clinical Nurse Specialist
- Adult-Gerontology Primary Care Nurse Practitioner
- Executive
- Family Nurse Practitioner
- Advanced Practice DNP
- Adult-Gerontology Acute Care Nurse Practitioner

CURRICULUM

The Doctor of Nursing Practice (DNP) curriculum requirements vary according to the track chosen by the student. Please see the information for each track. Additional details about this program are located in the Nursing DNP Handbook.

Students will take course work corresponding to the eight essential competencies delineated by the American Association of Colleges of Nursing (AACN). The competencies address the following:

1. Scientific underpinning for practice
2. Organizational and systems leadership for quality improvement and systems thinking
3. Clinical scholarship and analytical methods for evidence-based practice
4. Information systems/technology and patient care technology for the improvement and transformation of health care
5. Health care policy for advocacy in health care
6. Inter-professional collaboration for improving patient and population health outcomes
7. Clinical prevention and population health for improving the nation's health
8. Advanced nursing practice

DNP Project—9 Credit Hours

The DNP Project is the product of the culminating or comprehensive experience of an independent project that demonstrates application of advanced clinical and evidence-based practice. The DNP Project is guided and evaluated by an academic committee and is derived from the practice immersion experience (residency). It will serve as a foundation for future scholarly practice.

- NGR 7911C Doctoral Project 1 (3 credit hours; 60 clinical hours)
- NGR 7912C Doctoral Project 2 (3 credit hours; 120 clinical hours)
- NGR 7913 Doctoral Project 3 (3 credit hours)

The DNP Project is related to advanced nursing practice and benefits a group, population or community rather than an individual patient. It addresses identified needs and builds on an evidence base. DNP projects may include but are not limited to:

- Translate research into practice and evaluate outcomes
- Quality improvement (care processes, continuity of care, patient outcomes)
- Implement and evaluate evidence-based practice guidelines
- Analyze policy: develop, implement, evaluate, or revise policy
- Design and use databases to retrieve information for decision making, planning, evaluation

- Conduct financial analyses to compare care models and potential cost savings, etc.
- Design and evaluate new models of care
- Design and evaluate health promotion and disease prevention programs
- Assess integration of technology in care

The theme that links these forms of scholarly experiences is the use of evidence to improve either practice or patient outcomes. Additional examples of DNP projects can be found on the National Organization of Nurse Practitioner Faculty (NONPF) website under Practice Doctorate Resource Center.

Progress to Degree

Students are required to maintain a 3.0 grade point average. Grades below B are not acceptable in the doctoral program in the College of Nursing. Students who receive a grade of below B in any course are subject to dismissal from the DNP program and will be reviewed by the DNP Admissions, Progression and Graduation Committee for continuation in the program. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

Graduation Requirements

- All course work completed with a minimum grade of "B"
- A satisfactory DNP Project
- Clinical performance evaluated at a satisfactory level
- A satisfactory public presentation of the DNP Project

Equipment Fee

Full-time students in the Nursing Practice DNP program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 each semester.

INDEPENDENT LEARNING

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

Applicants holding an MSN degree in an APN specialty role or a post-MSN certificate (NP, CNS, CRNA, CNM) from an accredited institution should apply to the Advanced Registered Nurse Practitioner Post Master's Track. Applicants not holding an appropriate MSN degree may enter the DNP program through one of the two tracks: Adult/ Gerontology Nurse Practitioner or Family Nurse Practitioner.

CONTACT INFO

Angela Ritten DNP, ARNP, FNP-BC
Assistant Professor
Program Director
angela.ritten@ucf.edu
407-823-2625
UTWR 419

Nursing Practice DNP

Adult-Gerontology Clinical Nurse Specialist

CURRICULUM

Total Credit Hours Required:

86 Credit Hours Minimum beyond the Bachelor's Degree

The DNP Adult/Gerontology Clinical Nurse Specialist track allows students to acquire a MSN along the way upon completion of 45 credit hours of master's level courses, including 600 hours of clinical practice. This is followed by an additional 41 credit hours of doctoral-level courses, including 9 credit hours of the DNP Project and at least 420 clinical hours. All totaled, 1,020 practicum hours including those leading to the MSN are required to earn the DNP.

Required Courses for MSN—45 Credit Hours

Core Courses—21 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Practice Nursing (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (3 credit hours)

Specialty Courses: Adult/ Gerontology Clinical Nurse Specialist—24 Credit Hours

- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 6265 Adult/Gerontology CNS I (3 credit hours)
- NGR 6265L Adult/Gerontology CNS I Clinical (3 credit hours; 180 clinical hours)
- NGR 6266 Adult/Gerontology CNS II (3 credit hours)
- NGR 6266L Adult/Gerontology CNS II Clinical (3 credit hours; 180 clinical hours)
- NGR 6267 Adult/Gerontology CNS III (3 credit hours)
- NGR 6267L Adult/Gerontology CNS III Clinical (3 credit hours; 180 clinical hours)
- NGR 6874 Nursing Environment Management (3 credit hours)

Required Courses for the DNP—41 Credit Hours

The DNP courses serve to enhance the skill and science base of the graduate and strengthen the focus on research utilization. Safety and efficiency in health care systems is addressed and organizational and policy implications are emphasized within the context of care delivery. An emphasis is placed on evidence-based practice, state-of-the-art interventions and information fluency.

- NGR 6722 Financial Management and Resource Development (3 credit hours)
- NGR 7065 Advanced Clinical Management for APN (3 credit hours)
- NGR 7673 Epidemiology Principles in Advanced Practice Nursing (3 credit hours)
- NGR 7748 Advanced Clinical Practice Selective for Advanced Practice Nursing (2 credit hours; 120 clinical hours)
- NGR 7779C Program Development and Management for DNP (3 credit hours; 60 clinical hours)

- NGR 7793 Leadership and Economics in Advanced Practice Nursing (3 credit hours)
- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)
- NGR 7827 Concepts, Measurement, and Data Management (3 credit hours)
- NGR 7855C Evidence-Based Practice Development for DNP (3 credit hours; 60 clinical hours)
- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7911C Doctoral Project 1 (3 credit hours; 60 clinical hours)
- NGR 7912C Doctoral Project 2 (3 credit hours; 120 clinical hours)
- NGR 7913 Doctoral Project 3 (3 credit hours)
- Elective (3 credit hours)

Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade of below B in any course will be reviewed by the DNP Admissions, Progression and Graduation Committee for continuation in the program. Grades of below B are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

Graduation Requirements

- All course work completed with a minimum grade of "B"
- A satisfactory DNP Project
- Clinical performance evaluated at a satisfactory level
- A satisfactory public presentation of the DNP Project
- A professional portfolio

INDEPENDENT LEARNING

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution.*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
    - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
    - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent

graduates this can include accomplishments as a student.

- An interview with faculty may also be required.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

*For students with a Bachelor's degree in a discipline other than nursing, but possess a Florida RN License, please contact the College of Nursing at gradnurse@ucf.edu or 407-823-2744 for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office (407-823-2744) to speak with a DNP adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice. Students are admitted to the program in the fall for the program of study; however, spring admissions are possible for a revised plan of study.

Admission to the program is competitive, based on evaluations of the applicant's abilities, past performance, recommendations and match of UCF programs with the applicant's career goals. The College of Nursing accepts most qualified students.

Students may take classes as a nursing nondegree-seeking, postbaccalaureate student on a space-available basis. Students must designate on their application that they are applying to the College of Nursing in order to facilitate processing of files. Successful completion of postbaccalaureate courses does not guarantee admission to the graduate program. Students may only take nonclinical courses. Prior to applying as a nondegree student, please contact the main nursing advising office for deadlines and nondegree options at gradnurse@ucf.edu.

Application Deadlines

Adult-Gerontology Clinical Nurse Specialist	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				
International Transfer Applicants				

CONTACT INFO

Josie Weiss
Associate Professor
Program Director
josie.weiss@ucf.edu
407-823-2198
OTC4 454

Nursing Practice DNP

Adult-Gerontology Primary Care Nurse Practitioner

CURRICULUM

The DNP Adult/Gerontology Primary Care Nurse Practitioner track requires a minimum of 72 credit hours beyond the baccalaureate degree. The curriculum includes 42 credits of core courses shared with other DNP tracks, 12 credits of APN core and 18 credits of specialty courses. A total of 1,020 practicum hours are required to earn the DNP. The program prepares nurses at the entry level for advanced practice for the current healthcare system based on a strong scientific foundation for practice; offers flexibility and emphasis on evidence-based practice, leadership and organizational analysis; and provides analytic, critical thinking and diagnostic reasoning skills to examine practice innovations involving completion of the residency project during the clinical residency courses. Details about this program are located in the Advanced Practice DNP Adult-Gerontology DNP Handbook.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisite Courses—9 Credit Hours

Students with a bachelor's degree in a discipline other than nursing will be required to take the following courses prior to taking required program courses. Consistent with graduate nursing program policies, courses must be completed with a grade of 'B' or better.

- NUR 3805 Dimensions of Professional Practice (3 credit hours)
- NUR 4637 Public Health Nursing (3 credit hours)
- NUR 3165 Nursing Research (3 credit hours)

Advanced Practice Core Courses—12 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour, 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)

DNP Core Courses—42 Credit Hours

The DNP courses serve to enhance the skill and science base of the graduate and strengthen the focus on research utilization. Safety and efficiency in health care systems is addressed and organizational and policy implications are emphasized within the context of care delivery. An emphasis is placed on evidence-based practice, state-of-the-art interventions and information fluency

- NGR 5800 Theory for Advanced Nursing Practice (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Nursing Practice (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6874 Nursing Environment Management (3 credit hours)
- NGR 7065 Advanced Clinical Management for Advanced Practice Nursing (3 credit hours)
- NGR 7673 Epidemiology Principles in Advanced Practice Nursing (3 credit hours)
- NGR 7748L Advanced Clinical Practice Selective for APN (3 credit hours, 180 clinical hours)

- NGR 7793 Leadership and Economics in Advanced Practice Nursing (3 credit hours)
- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)
- NGR 7827 Concepts, Measurement, and Data Management (3 credit hours)
- NGR 7855C Evidence-Based Practice Development for DNP (3 credit hours, 60 clinical hours)
- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7911C DNP Project I (3 credit hours, 60 clinical hours)
- NGR 7912C DNP Project II (3 credit hours, 120 clinical hours)

Specialty Courses: Adult/Gerontology Nurse Practitioner—18 Credit Hours

- NGR 6201 Adult I Primary Care (3 credit hours)
- NGR 6240L Adult I Clinical for APNs (3 credit hours, 180 clinical hours)
- NGR 6202L Adult II Primary Care Clinical (2 credit hours, 120 clinical hours)
- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)
- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours, 120 clinical hours)
- NGR 6248L Advanced Practice Practicum (3 credit hours; 180 clinical hours)

The DNP Project is related to advanced nursing practice and benefits a group, population or community rather than an individual patient. It addresses identified needs and builds on an evidence base. DNP projects may include but are not limited to:

- Translate research into practice and evaluate outcomes
- Quality improvement (care processes, continuity of care, patient outcomes)
- Implement and evaluate evidence-based practice guidelines
- Analyze policy: develop, implement, evaluate or revise policy
- Design and use databases to retrieve information for decision making, planning, evaluation
- Conduct financial analyses to compare care models and potential cost savings, etc.
- Design and evaluate new models of care
- Design and evaluate health promotion and disease prevention programs
- Assess integration of technology in care

The theme that links these forms of scholarly experiences is the use of evidence to improve either practice or patient outcomes. Additional examples of DNP projects can be found on the National Organization of Nurse Practitioner Faculty (NONPF) website under Practice Doctorate Resource Center.

Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade below "B" in any course will be reviewed by the DNP Admissions, Progression and Graduation Committee for continuation in the program. Grades of below B are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

Graduation Requirements

- All course work completed with a minimum grade of "B"
- A satisfactory DNP Project
- Clinical performance evaluated at a satisfactory level
- A satisfactory public presentation of the DNP Project

INDEPENDENT LEARNING

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution by program start date.*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida by program start date. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role.
    - Describe the path you would take to ensure success in your graduate nursing education.
    - Identify one significant contemporary issue or problem in U.S. health care and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.

*For Students with an RN license and a Bachelor's degree in a discipline other than nursing, please contact the College of Nursing Graduate Office at gradnurse@ucf.edu for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a DNP adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluations of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF programs with the applicant's career goals. The College of Nursing accepts most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Adult-Gerontology Primary Care Nurse Practitioner	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Angela Ritten DNP, ARNP, FNP-BC
Assistant Professor
Program Director
angela.ritten@ucf.edu
407-823-2625
UTWR 419

Nursing Practice DNP

Advanced Practice DNP

TRACK DESCRIPTION

The Doctor of Nursing Practice (DNP) program prepares nurses at the highest level of practice for the current health care environment based on a strong scientific foundation for practice; flexibility and emphasis on evidence-based practice, leadership, and organizational analysis; and analysis of the DNP Project.

Program Objectives

The objectives of the DNP program are to prepare graduates to:

- Critically analyze complex clinical situations and practice systems.
- Assume leadership roles in the development of clinical practice models, health policy and standards of care.
- Demonstrate advanced diagnostic reasoning skills and clinical judgment through scholarship and nursing practice.
- Analyze the social, economic, political, epidemiological and other scientific data to improve individual, aggregate and population health.
- Demonstrate information fluency and advanced communication skills to lead quality improvement initiatives to improve patient care and health care systems.
- Design, implement, and evaluate comprehensive care to clients within an area of advanced practice specialization.

CURRICULUM

For the Doctor of Nursing Practice (DNP), total graduate credit must equal or exceed 72 credit hours. Students take 27 credit hours of core courses, 9 credit hours of electives, and 6 credit hours of a DNP Project. The total clinical hours (including those hours accrued in the MSN degree) will be 1000. The total clinical hours noted in this curriculum are based on an MSN total of 500 hours. Actual hours may vary depending on a review of MSN program hours demonstrated on entry into the program. The core courses have been carefully constructed to incorporate the AACN competencies for DNP graduates. Details about this program are located in the Nursing DNP Handbook.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Students will take course work that incorporates The Essentials of Doctoral Education for Advanced Nursing Practice [American Association of Colleges of Nursing (AACN), 2006]. The Essentials address the following:

1. Scientific underpinning for practice
2. Organizational and systems leadership for quality improvement and systems thinking
3. Clinical scholarship and analytical methods for evidence-based practice
4. Information systems/technology and patient care technology for the improvement and transformation of health care
5. Health care policy for advocacy in health care
6. Inter-professional collaboration for improving patient and population health outcomes
7. Clinical prevention and population health for improving the nation's health
8. Advanced nursing practice

DNP Core Courses—27 Credit Hours

The DNP core courses serve to enhance the skill and science base of the graduate and strengthen the focus on evidence-based practice. Safety and efficiency in health care systems is addressed and organizational and policy implications are emphasized within the context of care delivery. An emphasis is placed on evidence-based practice, state-of-the-art interventions and information fluency.

- NGR 6874 Nursing Environment Management (3 credit hours)
- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7673 Epidemiological Principles for APN (3 credit hours)
- NGR 7065 Advanced Clinical Management for APN (3 credit hours)
- NGR 7855C Evidenced-Based Practice Development for DNP (3 credit hours, 60 clinical hours)
- NGR 7748L Advanced Clinical Practice Selective for APN (3 credit hours; 180 clinical hours)
- NGR 7827 Concepts, Measurement, and Data Management (3 credit hours)
- NGR 7793 Leadership and Economics in APN (3 credit hours)
- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)

Electives—9 Credit Hours

- Electives (9 credit hours)

DNP Project—6 Credit Hours

The DNP Project is the product of the culminating or comprehensive experience of an independent project that demonstrates application of advanced clinical and evidence-based practice. The DNP Project is guided and evaluated by an academic committee and is derived from the practice immersion experience (residency). It will serve as a foundation for future scholarly practice.

- NGR 7911C Doctoral Project I (3 credit hours; 60 clinical hours)
- NGR 7912C Doctoral Project II (3 credit hours; 120 clinical hours)

The DNP Project is related to advanced nursing practice and benefits a group, population or community rather than an individual patient. It addresses identified needs and builds on an evidence base. DNP projects may include but are not limited to:

- Translate research into practice and evaluate outcomes
- Quality improvement (care processes, continuity of care, patient outcomes)
- Implement and evaluate evidence-based practice guidelines
- Analyze policy: develop, implement, evaluate, or revise policy
- Design and use databases to retrieve information for decision making, planning, evaluation
- Conduct financial analyses to compare care models and potential cost savings, etc.
- Design and evaluate new models of care
- Design and evaluate health promotion and disease prevention programs
- Assess integration of technology in care

The theme that links these forms of scholarly experiences is the use of evidence to improve either practice or patient outcomes. Additional examples of DNP projects can be found on the National Organization of Nurse Practitioner Faculty (NONPF) website under Practice Doctorate Resource Center.

Progress to Degree

Students are required to maintain a 3.0 grade point average. Grades below B are not acceptable in the doctoral program in the College of Nursing. Students who receive a grade of below B in any course are subject to dismissal from the DNP program and will be reviewed by the DNP Admissions, Progression and Graduation Committee for continuation in the program. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

Graduation Requirements

- All course work completed with a minimum grade of "B"
- A satisfactory DNP Project
- Clinical performance evaluated at a satisfactory level
- A satisfactory public presentation of the DNP Project

Equipment Fee

Full-time students in the Nursing Practice DNP program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 each semester.

INDEPENDENT LEARNING

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- MSN degree in an APN specialty role or a post-MSN certificate (NP, CNS, CRNA, CNM) from an accredited institution.
- Official, competitive GRE score taken within the last five years.
- Advanced Registered Nurse Practitioner (ARNP) licensure in the State of Florida required. (Out of state applicants must be eligible for licensure in Florida and must achieve ARNP licensure to begin clinical courses.)
- Certification as an APN or ability to obtain it in the first semester of enrollment is required.
- Documentation of the number of clinical hours completed during master's program. Acceptable documents are license exam application form or the attached.
- A personal interview may be required with two members of the College of Nursing Doctoral Committee.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role.
    - Describe the path you would take to ensure success in your graduate nursing education.
    - Identify one significant contemporary issue or problem in U.S. health care and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Documentation of the number of clinical hours completed during master's program. Acceptable documents are your license exam application form completion of the Verification of Clinical Hours Form.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a DNP adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluations of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF programs with the applicant's career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Advanced Practice DNP	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Sep 15	
International Applicants			Jul 1	
International Transfer Applicants			Sep 1	

CONTACT INFO

Angela Ritten DNP, ARNP, FNP-BC
Assistant Professor
Program Director
angela.ritten@ucf.edu
407-823-2625
UTWR 419

Nursing Practice DNP

Executive

TRACK DESCRIPTION

The DNP Executive Track meets the unique needs and taps the talent of nurse executives through experiential learning and leadership projects in a team-centered environment. It provides enrolled executives the opportunity to interact with prominent healthcare experts who address emergent and challenging issues for nurse leaders, and encourages networking with colleagues across local and state healthcare and policy organizations.

Program Objectives

The objectives of the DNP Executive Track are to prepare graduates to:

- Critically analyze complex clinical situations and practice systems.
- Assume leadership roles in the development of clinical practice models, health policy and standards of care.
- Develop practice models that support nurses in diagnostic reasoning skills and clinical judgment through the use of evidence based practice.
- Analyze the social, economic, political, epidemiological and other scientific data to improve individual, aggregate and population health.
- Demonstrate information fluency and advanced communication skills to lead quality improvement initiatives to improve patient care and health care systems.
- Design, implement, and evaluate comprehensive care models for systems within an area of responsibility.

CURRICULUM

The Executive Track in the Doctor of Nursing Practice program prepares nurses at the highest level of practice for the current healthcare environment based on a strong scientific foundation for practice; offers flexibility and emphasis on evidence-based practice, leadership, and organizational analysis, and provides analytic skills to examine practice innovations involving completion of the residency project requirement. Details about this program are located in the Executive DNP Handbook. For the Doctor of Nursing Practice (DNP), total graduate credit must equal or exceed 72 credit hours.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—27 Credit Hours

- NGR 6874 Nursing Environment Management (3 credit hours)
- NGR 7673 Epidemiology Principles in Advanced Practice Nursing (3 credit hours)
- NGR 7793 Leadership and Economics in Advanced Practice Nursing (3 credit hours)
- NGR 7827 Concepts, Measurement, and Data Management (3 credit hours)
- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)
- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7855C Evidence-Based Practice Development (3 credit hours; 60 practice hours)
- NGR 7779C Program Development and Management (3 credit hours; 120 practice hours)
- NGR 7778L Advanced Leadership Selective (3 credit hours, 190 practice hours)

Elective—3 Credit Hours

- Graduate Elective (3 credit hours, chosen from an approved list)

DNP Executive Residency—3 Credit Hours

The DNP Residency provides an in-depth clinical experience for students. This advanced practicum provides the opportunity to link policy making with clinical systems, translate research into practice and serve as change agents for health care. The clinical residency experience is facilitated by an advanced practice expert clinician/teacher.

- NGR 7976L DNP Executive Residency (3 credit hours, 180 practice hours). Can be repeated.

DNP Professional Practice Immersion

DNP clinical requirements are 1000 hours post-baccalaureate. Immersion hours depend upon record review of hours completed at the master's level.

- NGR 7942L DNP Professional Practice Immersion (1-3 credit hours, 60-180 practice hours). Can be repeated.

DNP Project—9 Credit Hours

The DNP Project is the product of the culminating or comprehensive experience of an independent project that demonstrates application of advanced clinical and evidence-based practice. The DNP Project is guided and evaluated by an academic committee and is derived from the practice immersion experience (residency). It will serve as a foundation for future scholarly practice.

- NGR 7911C Doctoral Project 1 (3 credit hours, 60 practice hours)
- NGR 7912C Doctoral Project 2 (3 credit hours, 120 practice hours). Can be repeated.

- NGR 7913 Doctoral Project 3 (3 credit hours). Can be repeated.

The DNP Project is related to advanced nursing practice and benefits a group, population or community rather than an individual patient. It addresses identified needs and builds on an evidence base.

INDEPENDENT LEARNING

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

PATH 1: Traditional MSN in Nursing Leadership and Management

In addition to the general UCF graduate application requirements, applicants to this program that hold a MSN degree in Nursing Leadership and Management must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- MSN degree in Nursing Leadership and Management from an accredited institution.
- Official, competitive GRE score taken within the last five years.
- Florida licensure required for all students who will be taking clinical and practice coursework in Florida health care agencies and institutions. For those students at a distance, a license is required in the state or country in which they will practice.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role.
    - Describe the path you would take to ensure success in your graduate nursing education.
    - Identify one significant contemporary issue or problem in U.S. health care and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.

PATH 2: MS or MSN in field other than Nursing Leadership and Management

In addition to the general UCF graduate application requirements, applicants to this program that hold a MS or MSN degree in a field other than Nursing Leadership and Management must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Master's Degree from an accredited institution.
- Official, competitive GRE score taken within the last five years.
- Florida licensure required for all students who will be taking clinical and practice coursework in Florida health care agencies and institutions. For those students at a distance, a license is required in the state or country in which they practice.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:

- Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role.
- Describe the path you would take to ensure success in your graduate nursing education.
- Identify one significant contemporary issue or problem in U.S. health care and explore how members of the nursing profession can help address that issue or solve that problem.

- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.

Portfolio Review for course equivalency and currency.

A Portfolio review is required for course equivalency and currency for students who did not graduate from UCF. UCF graduates will require a Portfolio review for course currency.

MSN applicants will require portfolio review for NLM master's level equivalents, which will also include verification of practice/laboratory hours completed in coursework. Missing coursework may be taken as a co-requisite upon admission.

- NGR 5720 Organizational Dynamics or NGR 6723 Nursing Leadership and Management
- NGR 6722 Financial Management and Resource Development

Non-nursing master's degree graduates will require review for completion of basic NLM requirements as noted above, as well as general nursing core requirements and verification of practice/laboratory hours completed in coursework including:

- NGR 6801 Research Methodology for APN

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a DNP adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Executive	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Sep 15	
International Applicants			Jul 1	
International Transfer Applicants			Sep 1	

CONTACT INFO

Diane Andrews PhD
Assistant Professor
Program Director
andrews@ucf.edu
407-823-2744
Suite 300

Nursing Practice DNP

Family Nurse Practitioner

TRACK DESCRIPTION

The Doctor of Nursing Practice (DNP) program in the Family Nurse Practitioner Track prepares nurses at the highest level of practice for the current health care environment based on a strong scientific foundation for practice; flexibility and emphasis on evidence-based practice, leadership, and organizational analysis; and analysis of the DNP project.

The DNP Family Nurse Practitioner Track allows students to earn an MSN along the way to the Doctor of Nursing Practice (DNP). This MSN allows students in the DNP program to sit for certification examinations when they have completed the list of courses required. Certification authorizes them to function in the advanced role while they complete the DNP curriculum.

Program Objectives

The objectives of the DNP program are to prepare graduates to:

- Critically analyze complex clinical situations and practice systems.
- Assume leadership roles in the development of clinical practice models, health policy and standards of care.
- Demonstrate advanced diagnostic reasoning skills and clinical judgment through scholarship and nursing practice.
- Analyze the social, economic, political, epidemiological and other scientific data to improve individual, aggregate and population health.
- Demonstrate information fluency and advanced communication skills to lead quality improvement initiatives to improve patient care and health care systems.

- Design, implement, and evaluate comprehensive care to clients within an area of advanced practice specialization.

CURRICULUM

The DNP Family Nurse Practitioner Track allows requires a minimum of 74 credit hours beyond the baccalaureate degree. The curriculum include 40 credit hours of core courses shared with other DNP tracks, 12 credits of APN core and 22 credits of specialty courses. A total of 1,020 practicum hours are required to earn the DNP. The program prepares nurses at the entry level for advanced practice for the current healthcare system based on a strong scientific foundation for practice; offers flexibility and emphasis on evidence-based practice, leadership and organizational analysis; and provides analytic, critical thinking and diagnostic reasoning skills to examine practice innovations involving completion of the residency project during the clinical residency courses. Details about this program are located in the Advanced Practice DNP Family Nurse DNP Handbook.

Total Credit Hours Required:

74 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisite Courses—9 Credit Hours

Students with a bachelor's degree in a discipline other than nursing will be required to take the following courses prior to taking required program courses. Consistent with graduate nursing program policies, courses must be completed with a grade of 'B' or better.

- NUR 3805 Dimensions of Professional Practice (3 credit hours)
- NUR 4637 Public Health Nursing (3 credit hours)
- NUR 3165 Nursing Research (3 credit hours)

DNP Core Courses—40 Credit Hours

- NGR 5800 Theory for Advanced Nursing Practice (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Nursing Practice (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6874 Nursing Environment Management (3 credit hours)
- NGR 7065 Advanced Clinical Management for Advanced Practice Nursing (3 credit hours)
- NGR 7673 Epidemiology Principles in Advanced Practice Nursing (3 credit hours)
- NGR 7748L Advanced Clinical Practice Selective for APN (1 credit hours, 60 clinical hours)
- NGR 7793 Leadership and Economics in Advanced Practice Nursing (3 credit hours)
- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)
- NGR 7827 Concepts, Measurement, and Data Management (3 credit hours)
- NGR 7855C Evidence-Based Practice Development for DNP (3 credit hours, 60 clinical hours)
- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7911C DNP Project I (3 credit hours, 60 clinical hours)
- NGR 7912C DNP Project II (3 credit hours, 120 clinical hours)

Advanced Practice Core Courses—12 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 clinical credit hour, 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)

Specialty Courses: Family Nurse Practitioner—22 Credit Hours

- NGR 6201 Adult I Primary Care (3 credit hours)
- NGR 6240L Adult I Clinical for APNs (3 credit hours, 180 clinical hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)
- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours, 120 clinical hours)
- NGR 6305 Pediatric Primary Care (3 credit hours)
- NGR 6305L Pediatric Primary Care Clinical (2 credit hours, 120 clinical hours)
- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6342L Women's Health for APNs Clinical (1 credit hour, 60 clinical hours)
- NGR 6248L Advanced Practice Practicum (3 credit hours, 180 clinical hours)

Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade of below "B" in any course will be reviewed by the DNP Admissions, Progression and Graduation Committee for continuation in the program. Grades of below B are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

Graduation Requirements

- All course work completed with a minimum grade of "B"
- A satisfactory DNP Project
- Clinical performance evaluated at a satisfactory level
- A satisfactory public presentation of the DNP Project

INDEPENDENT LEARNING

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution by program start date.*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida by program start date. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role.
    - Describe the path you would take to ensure success in your graduate nursing education .
    - Identify one significant contemporary issue or problem in U.S. health care and explore how members of the nursing profession can help address that issue or solve that problem.

- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.

*For Students with a RN and a Bachelor's degree in a discipline other than nursing, please contact the College of Nursing Graduate Office at gradnurse@ucf.edu for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a DNP adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Family Nurse Practitioner	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Angela Ritten DNP, ARNP, FNP-BC
Assistant Professor
Program Director
angela.ritten@ucf.edu
407-823-2625
UTWR 419

Nursing Practice DNP

Optics and Photonics PhD

PROGRAM DESCRIPTION

Research activities cover all aspects of optics, photonics, and lasers, and the Center for Research and Education in Optics and Lasers (CREOL), the Florida Photonics Center of Excellence (FPCE), and the Townes Laser Institute (TLI) are integral parts of the College of Optics and Photonics. Current research areas include: linear and nonlinear guided-wave optics and devices, high speed photonic telecommunications, fiber optic fabrication, fiber optic communications, solid state laser development, nonlinear optics, laser-induced damage, quantum-well optoelectronics, quantum optics, photonic information processing, infrared systems, optical diagnostics, optical system design, image analysis, virtual reality, medical imaging, diffractive optics, optical crystal growth and characterization, high intensity lasers, x-ray optics, EUV sources, optical glasses, laser materials processing, free-electron lasers, and light matter interaction.

The College of Optics and Photonics (COP) was the first program to be offered the distinction of a college devoted to Optics in the United States. The College of Optics and Photonics has grown rapidly and now has 55 faculty members and faculty with joint appointments, 41 research scientists and 148 graduate students with research activities covering all aspects of optics, photonics, and lasers. Research expenditures are over $10 million annually, with more than 20 percent of the funding coming from industrial partners, illustrating the effectiveness of the commitment to partnerships that is a foundational value of the COP.

CURRICULUM

The Optics and Photonics PhD program is intended for students with a bachelors or master's degree in Optics, Electrical Engineering, Physics, or closely related fields who wish to pursue a career in research or academia. Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case-by-case basis.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Students are required to pass a qualifying examination, usually taken after 12 months in the program. About one year after passing the qualifying exam, students must take a candidacy examination, form a dissertation committee, and submit an approved plan of study before being admitted to candidacy doctoral status. The PhD core courses are not absolutely required, but they have been designed to include a significant portion of the material upon which the qualifying examination is based. Consequently, students are strongly encouraged to include most of these courses in their plan of study.

The Optics and Photonics PhD program requires a minimum 72 credit hours beyond the bachelor's degree, of which more than 50 percent should be at the 6000 level or higher. These hours must be comprised of:

- At least 39 credit hours of formal course work satisfying the following requirements:
    - at least 30 credit hours must be Optics (prefix OSE) courses.
    - at least 6 credit hours must be science and engineering graduate research methods/laboratory courses of which at least 3 credit hours must be in Optics.
- at least 15 credit hours of Dissertation (OSE 7980)

Additional notes on the curriculum:

- Up to 30 credit hours of appropriate graduate courses earned in a master's program from accredited universities may be waived with approval from the graduate committee.
- Only courses with grades of "B" or better can be transferred.

Required Courses—21 Credit Hours

Core Courses—15 Credit Hours

- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 5115 Interference and Diffraction (3 credit hours)
- OSE 5312 Light Matter Interaction (3 credit hours)
- OSE 6211 Imaging and Optical Systems (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)

Research Methods/ Laboratory Courses—6 Credit Hours

At least 6 credit hours of approved Optics and related science/engineering research methods/laboratory courses are required from the list below. At least one must be in Optics (OSE). One required laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization. These research methods/laboratory courses count toward the formal graduate course work requirement.

- OSE 6234C Applied Optics Laboratory (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- Other graduate science and engineering labs may be taken with college approval.

Elective Courses—36 Credit Hours Minimum

Restricted Electives—9 Credit Hours

In addition to the required courses above, students will need to complete an additional 9 credit hours to meet the 30 hours of formal Optics (OSE) course work required. An additional three hours of optics course work will also be required if the student waived out of one of the research methods/laboratory courses above, or if one of the laboratory courses taken is not an OSE prefix.

Other courses with significant optics content may be accepted toward the Optics (OSE) course work requirement, upon approval by the Associate Dean.

A listing and description of courses offered by the College of Optics and Photonics is found in the "Courses" section of the Graduate Catalog Menu at the top of the page.

Unrestricted Electives—27 Credit Hours Minimum

A combination of formal course work and research hours comprise the remaining unrestricted hours. At least 9 of these hours must be formal course work, which may be graduate optics, science or engineering courses. In addition to the 9 hours, 18 credits may be regular formal course work, doctoral research hours, independent study, or doctoral dissertation hours. The independent study hours are limited to a maximum of 3 credit hours. Any courses outside of the graduate optics, science or engineering disciplines must be approved by the college associate dean.

Dissertation—15 Credit Hours Minimum

- OSE 7980 Dissertation Research (15 credit hours)

Qualifying Examination

Before students are eligible to take the candidacy examination, they must pass a written qualifying examination, which for full-time students is normally taken at the end of the first year of graduate study. The purpose of the qualifying exam is for the student to demonstrate mastery of the fundamentals of optics and photonics. The exam is administered by the doctoral qualifying examination committee, which consists of several graduate faculty members representing the appropriate disciplines, appointed by the director or designee. The committee’s duties include the preparation and grading of the examination material, and it may solicit input from other interested faculty. The exam is a closed book written exam in the general areas of electromagnetic foundations of optics, interference, diffraction, coherence, linear systems imaging, and light matter interaction. Students who do not pass the qualifying examination in two attempts will not continue in the program.

Candidacy Examination

Students are required to successfully complete the candidacy examination before admission to full doctoral status. The purpose of the candidacy exam is for the student to demonstrate his or her readiness for the PhD program through preliminary research work in the chosen field of study. The candidacy exam is comprised of written and oral portions. The exam is administered by the members of the student's dissertation advisory committee who are full faculty members of the College of Optics and Photonics. External committee members of the dissertation advisory committee are not appointed until after the student has passed the candidacy exam. The exam is normally taken near the completion of required course work. Students must pass the candidacy exam before registering for doctoral dissertation hours (OSE 7980).

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of most course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.

Dissertation Proposal and Defense

Approximately one year after passing the general candidacy examination, and after the student has begun research, the student will write a dissertation proposal and present it to their dissertation advisory committee for its approval. The proposal must include the research performed to date and the research planned to complete the dissertation. The committee, which consists of three graduate faculty members from the College of Optics and Photonics and one faculty member from outside the college, must be approved by the director or designee and will meet annually to review the student's progress. The dissertation advisory committee also administers the dissertation oral defense examination.

INDEPENDENT LEARNING

The dissertation satisfies the independent learning experience.

APPLICATION REQUIREMENTS

Before completing general UCF graduate admissions requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre-application process. The pre-application is located at http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx.

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, have a master's or bachelor's degree in Optics, Electrical Engineering, Physics or a closely related field, goal statement, résumé, and three letters of recommendation.

Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre-application process. The pre-application is located at http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's or master's degree in Optics, Electrical Engineering, Physics or closely related discipline.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation
- Goal statements: Personal Statement and Research Statement
    - Personal Statement should describe your career goals. Please include why you want to come to CREOL and how the PhD will help you achieve your ultimate career goals. Do you want to work in industry or do you want to go into academia?
    - Research Statement should describe the type of research that you are most interested in or specific faculty members that you wish to work with. If there are multiple areas of research, please provide information for each area.
- Résumé

Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case-by-case basis.

Application Deadlines

Optics and Photonics PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

David Hagan PhD
Associate Dean
College Coordinator
hagan@creol.ucf.edu
407-823-6817
CROL 231

Physical Therapy DPT

PROGRAM DESCRIPTION

The Doctor of Physical Therapy (DPT) program educates students to become competent, compassionate, and ethical practitioners in a variety of health care settings. Graduates will be highly dedicated professionals with excellent patient care, communication, critical thinking, patient education and advocacy, management and research skills.

Mission

The mission of the University of Central Florida's Doctor of Physical Therapy Program is to cultivate excellence in physical therapist practice through comprehensive and focused doctoral education. The program fosters excellence through its dedication to foundational sciences, clinical skill proficiency, research and evidence-based practice, service and professional duty, and lifelong learning. The program is committed to the development and strengthening of the healthcare community in order to optimize patient care in the dynamic healthcare environment.

Vision

The Doctor of Physical Therapy Program at the University of Central Florida will be distinguished for:

- Its breadth, depth, and collaborative approach to physical therapist education
- Clinical excellence and advancement of clinical practice
- Scholarly achievements and professional recognition of students, faculty, and clinical partners
- Dedication to the health and well-being of the Central Florida community
- Professional commitment and advocacy
- Cultivation of professional development to advance the practice of physical therapy

The Doctor of Physical Therapy Program is a three-year (nine consecutive semesters) professional doctoral curriculum designed to prepare entry-level therapists to practice in a variety of clinical settings. The professional curriculum is a full-time "lock-step" program with no opportunity to take courses other than those prescribed by the program. The program includes multiple clinical practica and internships ranging from six weeks to twelve weeks long. Applicants need to note that one or more of the clinical practica may be assigned at a site sufficiently removed from the Orlando area and may require the student to provide transportation and housing.

Students who successfully complete the course of study will be granted the Doctor in Physical Therapy degree (DPT), enabling the graduate to take the national board examination leading to state licensure as a Physical Therapist. The UCF Doctor of Physical Therapy program promotes lifelong learning and professional development, which is attained through active involvement in professional organizations such as the American Physical Therapy Association. UCF’s Doctor of Physical Therapy Program is fully accredited by the Commission on Accreditation of Physical Therapy Education.

CURRICULUM

The Doctor of Physical Therapy (DPT) Program is a full-time professional doctoral program requiring completion of 112 credits beyond the bachelor's degree. The course work is taken in a prescribed sequence over nine semesters as provided here and all course work is required. The program requires a total of 34 weeks of full-time clinical training. During the clinical affiliations, students work under the direct supervision of a licensed physical therapist.

Total Credit Hours Required:

112 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

Each prerequisite course must be completed with a minimum grade of "C". The overall GPA for all prerequisite courses must be a 3.00 or higher to be considered for admission. The program recommends all prerequisite courses be completed at time of application. Candidates with all prerequisites completed at time of application may be given preference over those still completing courses. **No more than two prerequisite courses may be in progress the fall semester prior to the program's start and no more than one course may be in progress during the spring semester prior to the program's start.** Courses older than seven years will not be accepted. Online courses are not accepted for the following prerequisites: biology courses, anatomy courses, physiology courses, physics courses, or chemistry courses. Hybrid courses for any of the courses listed above are strongly discouraged and must be approved by the DPT Admissions Committee prior to enrollment (email ptinfo@ucf.edu to request review).

Anatomy and Physiology - Two courses with labs and a minimum of 8 credit hours is required. One of two options must be met:

Option 1: One semester of Human Physiology with lab and one semester of Anatomy with lab.

Option 2: Two semesters of Anatomy/Physiology combined courses with labs.

Biology / Biological Studies - Two courses and a minimum of 6 credit hours is required. Labs are not required. Must be courses for science majors.

Chemistry - Two courses with labs and a minimum of 8 credit hours is required. Introduction and survey courses are NOT accepted.

Physics - Two courses with labs and a minimum of 8 credit hours is required. General Physics and Physics with Calculus are both acceptable courses.

Psychology - One course (3 credit hours) is required. Any psychology course that is taken within the Psychology Department will meet this requirement.

Statistics - One course (3 credit hours) is required.

Required Courses

Year 1

Summer Term 1 (14 Credit Hours)

- PHT 5003 Foundations of Physical Therapy I (2 credit hours)
- PHT 5125 Clinical Kinesiology (2 credit hours)
- PHT 5125L Clinical Kinesiology Lab (2 credit hours)
- PHT 6115C Gross Anatomy/Neuroscience I (6 credit hours)

- PHT 6606 Research Methods in Physical Therapy (2 credit hours)

Fall Term 1 (17 Credit Hours)

- PHT 5240 Physical Assessment (1 credit hour)
- PHT 5240L Physical Assessment Lab (2 credit hours)
- PHT 5260 Patient Care Skills (2 credit hours)
- PHT 5260L Patient Care Skills Lab (1 credit hour)
- PHT 6118C Gross Anatomy/Neuroscience II (6 credit hours)
- PHT 6156C Applied Human Physiology for Health Science (5 credit hours)

Spring Term 1 (14 Credit Hours)

- PHT 5218 Theories and Procedures I (2 credit hours)
- PHT 5218L Theories and Procedures I Lab (1 credit hour)
- PHT 5241 Therapeutic Exercises I (2 credit hours)
- PHT 5241L Therapeutic Exercise Lab I (2 credit hours)
- PHT 6242 Orthopedic Physical Therapy (2 credit hours)
- PHT 6242L Orthopedic Physical Therapy Lab (1 credit hour)
- PHT 6306 Pathology/Pharmacology (4 credit hours)

Year 2

Summer Term 2 (12 Credit Hours)

- PHT 5718 Neurological Physical Therapy (2 credit hours)
- PHT 5718L Neurological Physical Therapy Lab (1 credit hour)
- PHT 6219 Theories and Procedures II (2 credit hours)
- PHT 6219L Theories and Procedures II Lab (1 credit hour)
- PHT 6245 Therapeutic Exercise II (3 credit hours)
- PHT 6245L Therapeutic Exercise II Lab (1 credit hour)
- PHT 7722C Physical Therapy Integration I (2 credit hours)

Fall Term 2 (15 Credit Hours)

- PHT 6521 Management of Physical Therapy Services (3 credit hours)
- PHT 6322C Pediatric Physical Therapy (3 credit hours)
- PHT 6070C Radiology/Imaging for Physical Therapy (3 credit hours)
- PHT 6805C Clinical Education I (3 credit hours)
- PHT 6716C Advanced Orthopedic Physical Therapy I (2 credit hours)
- PHT 6720 Wound Care and Professional Issues (1 credit hour)

Spring Term 2 (13 Credit Hours)

- PHT 6374C Gerontology in Physical Therapy (2 credit hours)
- PHT 6381C Cardiopulmonary Physical Therapy (2 credit hours)
- PHT 6618 Research Applications in Physical Therapy (2 credit hours)
- PHT 6719 Advanced Neurological Physical Therapy (2 credit hours)
- PHT 6719L Advanced Neurological Physical Therapy Lab (1 credit hour)
- PHT 7134C Physical Therapy Integration II (2 credit hours)
- PHT 7730C Primary Care for the Physical Therapist (2 credit hours)

Year 3

Summer Term 3 (6 Credit Hours)

- PHT 7822C Advanced Clinical Education I (6 credit hours)

Fall Term 3 (10 Credit Hours)

- PHT 7823C Advanced Clinical Education II (4 credit hours)
- PHT 7721C Advanced Orthopedic Physical Therapy II (1 credit hour)
- PHT 7772C Advanced Neurological Physical Therapy II (1 credit hour)
- PHT 7780C Advanced Gerontology in Physical Therapy I (1 credit hour)
- PHT 7329C Advanced Pediatric Physical Therapy I (1 credit hour)
- PHT 7521C Management of Physical Therapy Services II (2 credit hours)

Spring Term 3 (11 Credit Hours)

- PHT 7021 Professional Practice in Physical Therapy (2 credit hours)
- PHT 7900 Capstone Project in Physical Therapy (3 credit hours)
- PHT 7829C Advanced Clinical Education III (4 credit hours)
- PHT 7XXXC ***Elective Course (2 credit hours)

***Elective Course Options (student must select at least one of the following courses, pending availability):

- PHT 7742C Acute Care Physical Therapy (2 credit hours)
- PHT 7778C Advanced Manual Therapy (2 credit hours)
- PHT 7764C Advanced Neurologic Treatment (2 credit hours)
- PHT 7702C Advanced Orthotics and Prosthetics (2 credit hours)
- PHT 7779C Sports Physical Therapy (2 credit hours)

Examinations

This program requires a final comprehensive examination on all course work in the program of study. Students are required to pass the comprehensive examination with an 80% proficiency. Students will be allowed to re-take the examination for a total of three (3) attempts. A student may not graduate from the Doctor of Physical Therapy program until the comprehensive examination is passed with an 80%. Failure to pass the examination after 3 attempts will result in a meeting with the Retention and Advancement Committee for the Doctor of Physical Therapy Program, where further action will be determined. In addition, comprehensive examinations may be required at the end of each year of the program. Participation and completion of a capstone (research) project is also required of each student prior to graduation.

Equipment Fee

Students in the Doctor of Physical Therapy program pay a $90 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

All students in the Doctor of Physical Therapy (DPT) program are required to engage in independent learning, a process in which individuals take the initiative, with or without help of others to attain knowledge, skills, and professional behaviors. Tangible assignments, such as "Grand Rounds" (i.e., patient case studies), research projects, scholarly reviews, and full-time clinical practica mandated by the program and provide important independent learning experiences giving students ample opportunities to develop and demonstrate independent learning skills as a result of self-inquiry and group dialogue.

APPLICATION REQUIREMENTS

The Doctor of Physical Therapy program at UCF participates in the Physical Therapist Centralized Application Service, known as PTCAS. Prospective students applying to the entry-level physical therapist education program for the 2018 entering class must apply online using the PTCAS application. To learn more about the PTCAS application process, visit www.ptcas.org.

All application materials MUST be sent directly to PTCAS. Materials sent to the university or program and not to PTCAS will not be accepted. The following application materials must be received by PTCAS no later than November 1st.

Completed PTCAS Application (www.ptcas.org), including all documents required by PTCAS.

One official transcript from each college/university attended.

Official GRE scores taken within last five years. Use GRE CODE for UCF PTCAS: 3871 (Do not use the "Institution Code" for GRE listed to the right.)

Prerequisite courses completed within seven (7) years of anticipated matriculation.

A minimum of 30 hours of volunteer or work experience under the direct supervision of a licensed physical therapist. Hours must be verified through PTCAS by November 1st to be considered. A variety of settings is recommended.

Three (3) letters of recommendation with PTCAS recommendation forms, including one from a physical therapist.

Applicants who have attended a college/university outside the United States must also provide a course-by-course credential evaluation with GPA calculation through WES.

UCF Graduate Application (supplemental) must be submitted in addition to PTCAS application. Deadline to submit the supplemental application is December 1, 2017.

Incomplete applications will NOT be reviewed.

Application requirements:

The bachelor's degree may be in any discipline from a regionally accredited institution and may be in progress at time of application. However, the degree must be awarded prior to the program's start date in the Summer C semester (mid-May).

Minimum GPA of 3.00 (on 4.00 scale) in the last 60 credit hours of undergraduate degree.

Minimum GPA of 3.00 (on 4.00 scale) for all prerequisite courses. Each prerequisite course grade must be a 'C' or higher.

Minimum GRE scores of 146 for verbal reasoning; 144 for quantitative reasoning; and 3 on the analytical writing portion.

An on-campus interview, by invitation only.

UCF Graduate Application (supplemental) MUST be completed by December 1, 2017 with supplemental application fee paid by ALL APPLICANTS.

A resume will only be required for students who are offered an interview by the program. Once requested, the applicant will email the resume directly to the program.

Applicants not meeting these minimum requirements will not be considered for admission. Meeting minimum requirements does not guarantee an applicant an interview or admission to the program. All applicants and admitted students to the Doctor of Physical Therapy program must perform certain Essential Functions in order to participate and complete program requirements.

PTCAS will begin accepting applications in July, however the program will not begin reviewing applications until September.

Admissions decisions will be made only once per academic year. Incoming students must begin the program in the summer C semester (mid-May).

Thirty-six (36) students are admitted to the program each year. The demographics of a recent class include an average age of 24 years and a grade point average of 3.77 (on a 4.0 scale) for both GPA of upper division coursework and prerequisite courses, and an average GRE scores of 156Q / 155V / 4WA.

Admission to the program is competitive based on the above criteria, the applicant's abilities, past academic performance, work experience and match of the applicant with the program's mission and goals.

Application Deadlines

Physical Therapy DPT	Fall Priority	Fall	Spring	Summer
Domestic Applicants				Nov 1
International Applicants				Nov 1
International Transfer Applicants				Nov 1

Contact Info

Samantha Moya
samantha.moya@ucf.edu
407-823-6026
HPA1 256

Patrick Pabian DPT
patrick.pabian@ucf.edu
407-823-3470
HPA 1 256

Physics PhD

- Planetary Sciences

PROGRAM DESCRIPTION

The doctoral program in Physics intends to provide a broad base in experimental and theoretical physics. Students will obtain distinction in their field of study with research opportunities in condensed matter physics, nanostructure devices, surface science, optical physics, complex systems, biophysics, atomic and molecular physics, and planetary/space science.

The rules and recommendations below do not apply to the Planetary Sciences track of the Physics PhD program.

CURRICULUM

The Physics PhD program requires a total of 72 credit hours for completion. A specific set of six required core courses (18 credit hours), thirteen elective courses (39 credit hours), and a minimum of 15 credit hours of dissertation are part of the 72 hours.

Total Credit Hours Required:

42 Credit Hours Minimum beyond the Master's Degree

al Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Of the 39 credit hours, 9 credit hours must be formal courses and 3 credit hours must be in a methods course selected from a list approved by the Physics department (see below). The remaining 27 credit hours need to be a combination of directed research, other electives, and/or dissertation. Courses must be selected so that at least one-half of the required 72 hours are taken at the 6000 level.

Required Core Courses—18 Credit Hours

All students are required to take the following core courses. For all core courses there will be weekly recitations.

- PHY 5606 Quantum Mechanics I (3 credit hours)
- PHY 6624 Quantum Mechanics II (3 credit hours)
- PHY 5346 Electrodynamics I (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHY 5524 Statistical Physics (3 credit hours)
- PHY 6246 Classical Mechanics (3 credit hours)

Elective Courses—39 Credit Hours

Elective and research courses are determined by the student's chosen specialization as listed below. Of the 39 credit hours, 9 credit hours must be from formal courses and 3 credit hours must be in a methods course approved by the department. The remaining 27 credit hours can consist of any combination of courses.

Formal Courses—9 Credit Hours

Students must complete three formal courses (9 credit hours) from the specialization coursework listed below.

Methods Course—3 Credit Hours

Students must complete one methods course (3 credit hours) from the following list:

- PHZ 5156 Computational Physics (3 credit hours)
- AST 5765C Advanced Astronomical Data Analysis (3 credit hours)
- PHY 5937 Nano-Electronics (3 credit hours)

Remaining Electives—27 Credit Hours

Students must complete 27 credit hours of unrestricted electives, which may consist of formal courses, research, and/or dissertation hours. Students should consult with their adviser about selections for the remaining unrestricted electives.

General Physics Specialization

The General Physics Specialization emphasizes strong preparation in physics fundamentals. It is intended to prepare students for careers in theoretical physics teaching at the college level. A number of active research programs exist in the department to accommodate such students.

Recommended Courses

- PHY 6673 Advanced Quantum Mechanics (3 credit hours)
- PHY 5933 Selected Topics in Biophysics and Macromolecules
- PHZ 5156 Computational Physics (3 credit hours)
- PHY 5846C Methods of Experimental Physics (3 credit hours)
- PHZ 5405 Introduction to Condensed Matter Physics (3 credit hours)
- PHZ 6426 Condensed Matter Physics I (3 credit hours)
- PHZ 6428 Condensed Matter Physics II (3 credit hours)
- PHY 6667 Quantum Field Theory I (3 credit hours)
- PHY 7669 Quantum Field Theory II (3 credit hours)

- PHZ 5505 Plasma Physics (3 credit hours)
- COT 6600 Quantum Computing (3 credit hours)
- PHZ 5304 Nuclear and Particle Physics (3 credit hours)
- PHZ 6234 Atomic Physics (3 credit hours)
- PHZ 6420 First Principles Computational Methods in Condensed Matter Physics and Materials Science (3 credit hours)
- PHY 6600C Theory and Computation of Molecular Wave Functions (3 credit hours)
- PHY 6938 Selected Topics in Scattering Theory (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)
- OSE 6347 Quantum Optics (3 credit hours)
- PHY 7919 Directed Research
- Other courses from Physics, Math, Optics, Materials Science, Engineering require approval by the student's adviser and the graduate program director.

Condensed Matter Physics Specialization

The Condensed Matter Physics Specialization is intended to prepare students for careers in materials physics, nanoscale science and technology, semiconductors, and soft condensed matter physics. It emphasizes strong experimental preparation with hands-on courses in advanced materials characterization and processing instrumentation. Related research programs at UCF include magnetic nanostructures, soft condensed matter, electronic and optoelectronic devices, and nanoscale characterization.

Recommended Courses

- PHZ 5405 Introduction to Condensed Matter Physics (3 credit hours)
- PHZ 6426 Condensed Matter Physics I (3 credit hours)
- PHZ 6428 Condensed Matter Physics II (3 credit hours)
- PHZ 5156 Computational Physics (3 credit hours)
- PHY 5846C Methods of Experimental Physics (3 credit hours)
- PHZ 6420 First Principles Computational Methods in Condensed Matter Physics and Materials Science (3 credit hours)
- PHZ 5437 Nanoscale Surface Physics (3 credit hours)
- PHZ 5432 Introduction to Soft Condensed Matter Physics (3 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- PHY 6667 Quantum Field Theory I (3 credit hours)
- PHY 7669 Quantum Field Theory II (3 credit hours)
- COT 6600 Quantum Computing (3 credit hours)
- PHY 6938 Theory and Computation of Molecular Wave Functions (3 credit hours)
- PHY 6938 Selected Topics in Scattering Theory (3 credit hours)
- Two "studio lab" courses: PHY 5140C Ion-solid interactions (3 credit hours) and PHZ 5425C Electron Solid Interactions (3 credit hours)
- Other courses from Materials Science, Physics, Optical Science and Engineering, Electrical Engineering, or Industrial Chemistry require approval of the student's adviser and the graduate program director

Optical Physics Specialization

The Optics Specialization coordinator is David Hagan, PhD, College of Optics and Photonics. Students are recommended to take at least one of the following courses.

- OSE 6111 Optical Wave propagation (3 credit hours)
- OSE 5115 Interference and Diffraction (3 credit hours)

Select at least one of the following laboratory courses.

- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)

The remaining courses (up to three) may be selected from other graduate courses in Optics (see www.creol.ucf.edu).

Dissertation—15 Credit Hours Minimum

- PHY 7980 Dissertation Research (15 credit hours minimum)

All students must complete a minimum of 15 credit hours of dissertation prepared in consultation with a dissertation adviser. A fifteen-page written proposal is presented orally to the student's dissertation committee within one year after the written candidacy exam. The final oral defense of the dissertation is administered by the student's dissertation committee following completion of a written dissertation describing the student's research.

Seminar Attendance

Students in their fourth semester and beyond will be required to attend a major fraction of seminars and colloquia hosted by the Physics Department, as well as to make an annual presentation of their research work or independent study.

Examinations

Placement Exam—All incoming PhD students in Physics will be required to take a placement exam covering topics in Quantum Mechanics, Classical Mechanics, Electromagnetism, and Thermodynamics at the undergraduate level.

Candidacy Exam—The candidacy exam consists of two parts.

Part 1 is a written exam covering the material of the core courses. It should be taken immediately after the core courses have been completed. After passing the written exam, the student should identify a research supervisor and a dissertation committee must be put in place with the approval of the graduate program director. Students are only allowed two attempts at passing the written part of the candidacy exam.

Part 2 is an oral exam that combines an examination of the student's command of Physics and a written dissertation proposal. The oral exam should be taken no later than one year after the written exam has been satisfied.

Admission to Candidacy

The following are required to obtain candidacy status and enroll in dissertation hours:

- Completion of 51 credit hours to include all required core courses, formal course work and at least 21 credit hours of remaining electives. (Dissertation hours are not included)
- Successful completion of both part I (written exam) and part II (oral exam) of the candidacy exam.
- The dissertation advisory committee is formed, consisting of a chair, approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.
- Completion of CITI and RCR Workshops

INDEPENDENT LEARNING

The Physics PhD program requires a doctoral dissertation. This will provide ample opportunities for students to gain independent learning experience through studying published research papers, conducting research and presenting their results in conferences and in peer-reviewed scientific journals.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, résumé, goal statement, three letters of recommendation; students entering the Physics graduate program with regular status are normally expected to have completed course work generally required for a bachelor's degree in physics, including mechanics, electricity and magnetism, thermal and statistical physics, and quantum mechanics.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- The Physics Subject Test of the GRE is recommended, but not required.
- Three letters of recommendation.
- Statement of goals.
- Résumé.

Students entering the Physics graduate program with regular status are normally expected to have completed course work generally required for a bachelor's degree in physics, including mechanics, electricity and magnetism, thermal and statistical physics, and quantum mechanics.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Physics PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Esperanza Soto Arcino
Program Staff
soto@ucf.edu
407-823-5146
PSB 432

Physics PhD

Planetary Sciences

TRACK DESCRIPTION

The University of Central Florida has rapidly grown to become a center for research and teaching in the planetary sciences. Our goal is to create a vibrant planetary science research environment that can attract top students, researchers, and faculty and contribute significantly to the exploration of space. The Planetary Sciences track in the Physics PhD program is designed to prepare students to be competitive in the global planetary sciences research community.

CURRICULUM

The Planetary Sciences track in the Physics PhD program requires a minimum of 72 credit hours beyond the bachelor's degree or 42 hours beyond the master's degree.

Total Credit Hours Required:

42 Credit Hours Minimum beyond the Master's Degree

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

This includes completion of 6 required courses (18 credit hours), 5 elective courses (15 credit hours) of regular course work selected in consultation with the student's dissertation advisory committee, a minimum of 15 credit hours of dissertation, and the remaining 24 credit hours of appropriately selected research, dissertation, and elective courses. Courses must be selected so that at least 36 of the 72 hours are at 6000 level or higher. No more than 12 hours of independent study may be credited toward the PhD degree. The PhD includes a Candidacy Exam to be taken after the completion of the core courses, a written dissertation, and a dissertation defense before the student's dissertation advisory committee.

Required Courses—18 Credit Hours

The core is designed to give students a broad foundation in the planetary sciences and a rapid training in the data analysis techniques that will be necessary for a successful research and publications.

- PHY 5524 Statistical Physics (3 credit hours)
- PHY 6246 Classical Mechanics (3 credit hours)
- PHZ 5156 Computational Physics (3 credit hours) or AST 5765C Advanced Astronomical Data Analysis (3 credit hours)
- AST 5154 Advanced Planetary Geophysics (3 credit hours)
- AST 5263 Advanced Observational Astronomy (3 credit hours)
- AST 5165 Planetary Atmospheres (3 credit hours)

Elective Courses—15 Credit Hours

- AST 6938 Planetary Astronomy Seminar (3 credit hours)
- AST 6112 Origins of Solar Systems (3 credit hours)
- AST 5334 Extrasolar Planets and Brown Dwarfs (3 credit hours)
- PHY 5937 Astrobiology (3 credit hours)
- AST 5145 Advanced Asteroids, Comets, and Meteorites (3 credit hours)

Other Electives—24 Credit Hours

Please see your adviser. This may include elective courses, dissertation hours, or selected research courses.

- PHZ 5505 Plasma Physics (3 credit hours)
- PHY 5346 Electrodynamics I (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHY 5606 Quantum Mechanics I (3 credit hours)
- PHY 6624 Quantum Mechanics II (3 credit hours)
- OSE 5041 Introduction to Wave Optics (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)

Dissertation—15 Credit Hours

- PHY 7980 Dissertation (15 credit hours)

Dissertation Advisory Committee

Within the first half-semester of admission to the planetary sciences graduate track, each student must select, by mutual agreement, a faculty adviser and two other faculty members to serve on his or her Dissertation Advisory Committee. One of the faculty members who is not the adviser must be from an area in the department other than Planetary Sciences. UCF graduate faculty and self-funded research scientists who are graduate faculty scholars are eligible to serve on these committees. Changes in the membership of a Advisory Committee must be approved by the Planetary Sciences Graduate Committee. The adviser is expected to meet regularly with the student. The full committee shall meet with the student at least once per semester to review and make recommendations regarding the student's academic progress. At the time of the Candidacy Exam, a non-UCF Planetary Sciences scientist shall be added to the Advisory Committee.

Candidacy Exam

The Planetary Sciences Track requires a candidacy exam to be taken after the completion of the core courses. This exam is composed of a written component and an oral exam. The written component is a journal-level research paper. The oral component is a two parts: (1) A public presentation of the research contained in the paper including the traditional question-and-answer period of a scientific presentation; and (2) private questioning on the detail of the presented research as well as the topics covered in the student’s preparation and course work.

Dissertation Proposal

The dissertation proposal may be presented simultaneously with the candidacy exam or in a separate meeting not more than one semester thereafter. Before substantial work is done on the dissertation, the Supervisory Committee must approve the proposal and must also assess whether additional course work is necessary to begin the dissertation. Such course work should be completed at the earliest opportunity and before substantial work is done on the dissertation.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all required and formal elective course work, except for research hours.
- Successful completion of the candidacy examination.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.
- Submittal of an approved program of study.
- Completion of CITI and RCR Workshops

Dissertation Defense

The dissertation defense is the final requirement for the PhD. It consists of a public presentation of the dissertation typically lasting 45-60 minutes including the traditional question-and-answer period of a scientific presentation, followed by private questioning by the Dissertation Advisory Committee. Procedures are similar to the candidacy exam.

INDEPENDENT LEARNING

The Planetary Sciences Track in the Physics PhD program requires a dissertation.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants to this program must provide a bachelor's degree in physics, astronomy, geology, geophysics, geochemistry, atmospheric sciences, or planetary sciences, an official, competitive GRE score taken within the last five years, three letters of recommendation, statment of goals, and a résumé.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in physics, astronomy, geology, geophysics, geochemistry, atmospheric sciences, or planetary sciences.
- Official, competitive GRE score taken within the last five years.
- The Physics Subject Test of the GRE is recommended, but not required.
- Three letters of recommendation.
- Statement of goals.
- Résumé.

Additional courses may also be required to correct any course deficiencies for those applicants without full preparation in physics and astronomy. Students entering the Physics graduate program with regular status are normally expected to have completed course work generally required for a bachelor's degree in physics, including mechanics, electricity and magnetism, thermal and statistical physics, and quantum mechannics. Students should contact the graduate program director for further information.

Current students in the existing Physics graduate program wishing to switch to the Planetary Sciences track must submit a letter to the Planetary Science Graduate Committee addressed to Dr. Dan Britt. The letter should include the request to join the planetary sciences track, the students degree goal (Masters), the name of the students planetary sciences adviser, and a brief description of their expected area of research. Upon departmental approval, a Graduate Status Change Form will be submitted to the College of Graduate Studies.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Planetary Sciences	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Esperanza Soto Arcino
Program Staff
soto@ucf.edu
407-823-5146
PSB 432

Public Affairs PhD

- Criminal Justice
- Governance and Policy Research
- Health Services Management and Research
- Public Administration MPA Dual Degree
- Public Administration
- Social Work

PROGRAM DESCRIPTION

Instead of a discipline specific approach to the intransient problems facing our society today, the Doctoral Program in Public Affairs is an interdisciplinary program which draws upon the strengths of faculty in Criminal Justice, Health Management and Informatics, Public Administration, and Social Work. The program prepares students for academic appointments in colleges and universities as well as research and leadership positions in public, nonprofit, and private agencies. The dynamic mix of an interdisciplinary faculty, together with students from varied backgrounds, creates a stimulating environment to examine many of the contemporary social ills communities are currently facing.

The program matches career goals of students through the interdisciplinary nature of course content, the interaction with faculty from all four disciplines, and the flexibility inherent in the choice of electives. Those seeking advancement within public agencies or nonprofit organizations can choose a mix of electives, including course work from other UCF programs, while those seeking to teach at the college or university level can focus on taking more courses within their discipline.

Upon completing the program, graduates will have the theoretical, analytical, and ethical foundation to provide alternative solutions to these social ills while deepening our understanding of the underlying problem. This holistic approach answers to both applied and theoretical concerns and, as such, has the potential to have both local as well as national impact on programming and decision-making.

CURRICULUM

The Doctoral Program in Public Affairs accommodates the needs of both traditional students and working professionals. All course work is offered in the evening hours and selected courses offer reduced seat time.

Students must complete 60 credit hours beyond the master's degree distributed in the following manner:

- a three-course, 9-credit required Public Affairs substantive core
- a six-course, 18-credit required Public Affairs methodological and statistical core
- a five-course, 15 credit hour Track Specialization
- a one course, 3-credit required Public Affairs practicum
- 15 credit hours of dissertation (minimum)

Students are required to take electives as directed by their track adviser. Students may take a maximum of two 3-credit-hour independent study courses to be used as electives with approval.

Total Credit Hours Required:

60 Credit Hours Minimum beyond the Master's Degree

The Public Affairs PhD program curriculum comprises an interdisciplinary core with advanced studies offered in five tracks: Criminal Justice, Governance and Policy Research, Health Services Management and Research, Public Administration, and Social Work. The program has a community-based focus with an emphasis on collaborative relationships across public, private and nonprofit sectors of the community.

To ensure that all students have the necessary research and quantitative skills, students are required to take a statistical placement exam during the summer semester prior to their entering the program fall semester. Students demonstrating deficiencies in statistics must complete the Advanced Quantitative Methods in Public Affairs course prior to registering in PAF 7804 Quantitative I: Multivariate Analysis. The 6000 level course will prepare students for the doctoral level statistical sequence and may be included in the student's program of study as an elective.

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track for Public Affairs specialization or general elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Director. Transfer work will not be accepted into the PAF substantive or methodological core components.

A grade of B- or better is required in all courses. Students receiving a grade of "C+" or lower will be required to repeat the course and receive a grade of B- or better prior to taking the Research Proficiency Exam or Qualifying Exam. Any student who receives more than one "C" in their doctoral course work may be dismissed from the program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements. Applicants must choose a track in this program. Track(s) may have different requirements.

Application Deadlines

Public Affairs PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Robyne Stevenson PhD
Associate Professor
Program Director
robyne.stevenson@ucf.edu
407-823-3459
HPA 1, Room 220

Public Affairs PhD

Criminal Justice

TRACK DESCRIPTION

The dynamic mix of an interdisciplinary faculty with students of varied backgrounds creates a stimulating environment to examine contemporary organizational, institutional and community problems and issues. Graduates possess the theoretical, analytical and ethical foundation to produce new knowledge that impacts policies and programs and enhances institutional and community performance.

CURRICULUM

Students must complete 60 credit hours beyond the master's degree distributed in the following manner:

- a three-course, 9-credit hour required Public Affairs substantive core
- a six-course, 18-credit hour required Public Affairs methodological and statistical core
- a three-course, 9-credit hour required discipline-specific specialization
- a two-course, 6-credit hour unrestricted elective requirement
- a one course, 3-credit hour required Public Affairs practicum
- 15 credit hours of dissertation minimum

Total Credit Hours Required:

60 Credit Hours Minimum beyond the Master's Degree

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track specialization or elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Program Director. Transfer work will not be accepted into the PAF substantive or methodological core components.

A grade of B- or better is required in all substantive core and methodological core courses. Students receiving a grade of "C+" or lower will be required to repeat the course and receive a grade of B- or better prior to taking the Research Proficiency Exam and Qualifying Exam. Any student who receives more than one grade of C+ or lower in their doctoral course work may be dismissed from the program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

Required Courses—45 Credit Hours

Public Affairs Substantive Core—9 Credit Hours

- PAF 7000 Foundations of Public Affairs: People, Places, Policies and Paradigms (3 credit hours)
- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)

- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

Methodological and Statistical Core—18 Credit Hours

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

Advanced Methodology

Choose one of the following courses:

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7856 Structural Equation Modeling in Public Affairs (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

Practicum—3 Credit Hours

- PAF 7947 Practicum in Community Based Research (3 credit hours)

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7947). Led by a professor, the practicum provides the student with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to the community while bringing the community into the university.

Track Specialization—15 Credit Hours

Students are required take three of the following courses:

- CCJ 6XXX Seminar in Policing Urban Communities (3 credit hours)
- CCJ 6XXX Seminar in Police Administration (3 credit hours)
- CCJ 6XXX Seminar in Police Culture (3 credit hours)
- CCJ 6XXX Seminar in Institutional Corrections (3 credit hours)
- CCJ 6XXX Seminar in Community Corrections (3 credit hours)
- CCJ 6XXX Seminar in Correctional Effectiveness (3 credit hours)
- CCJ 6XXX Juvenile Justice (Prerequisite: The Juvenile Justice System) (3 credit hours)
- CCJ 6XXX Seminar in Policing and Prevention in the Juvenile Justice System (3 credit hours)
- CCJ 6XXX Seminar in Prosecuting Juvenile Offenders (3 credit hours)
- CCJ 6XXX Seminar in Juvenile Corrections (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)

Choose two additional courses from the following list:

- See adviser for appropriate methodological elective (3 credit hours)
- Directed independent study (3 credit hours)
- Or other course that will add to the student's course of study. Requires approval of adviser. (3 credit hours)

Dissertation—15 Credit Hours

- PAF 7980 Dissertation Research

Assignment of Faculty Advisers

Upon acceptance of a student into the program, the program director provides students with an initial orientation and a general advising
session. The Track Coordinator in conjunction with the PAF Director helps the student throughout the foundation stage of the program, assisting in the clarification of interests and goals and facilitating the introduction of students to faculty and research interests that can advance the student's program of study. Criminal Justice Track students will be advised by the Criminal Justice Track Coordinator.
The Track Coordinator assists the student in selecting elective courses, finalizing the program of study, and facilitating discussion with faculty members who have similar research interests. Discussion and review of dissertation topics should take place with the faculty member who has agreed to chair the dissertation committee. The dissertation chair is to be selected by the student prior to commencing the dissertation prospectus.

Research Proficiency Exam and Qualifying Exam

Upon successful completion of the required courses and the required Practicum course, students are required to take a Research Proficiency Exam (RPE) and Qualifying Exam (QE). The Research Proficiency Exam will be taken after the successful completion of the Methodological Core courses. Following successful completion of all PAF core courses (not including Track Specialization courses), students are required to pass a Qualifying Exam. The exam is given following finals in the fall or spring semesters.

Students are given two opportunities to pass the RPE and the QE. Students who fail any section twice are dismissed from the program. Any student who fails any the RPE twice or the QE twice will not be readmitted into the PAF program. This policy includes all tracks and/or any master's to PhD program(s) within the PAF program. Please refer to the student handbook for further information.

Candidacy Status

Students officially enter candidacy when the following work has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the Research Proficiency Exam and Qualifying Exam.
- The dissertation advisory committee is formed and has been approved by the PAF Program Director and the College of Graduate Studies. Members of the committee must be approved graduate faculty or graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to iThenticate.com. Subsequent results to be within acceptable rating.
- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices.

Equipment Fee

Full-time students in the Public Affairs Program pay a $40 equipment fee each semester that they are enrolled. Part-time students pay $20 per semester.

APPLICATION REQUIREMENTS

Applicants must possess a master's degree from an accredited institution, preferably in a field related to criminal justice, health, public administration or social work. Applicants with a master's degree in a field not directly related to public affairs may be required to take courses at the master's level in preparation for doctoral level study. In addition to the general UCF graduate application requirement, applicants to this program must provide an official, competitive GRE score taken within the last five years, a goal statement, résumé, a writing sample, and three letters of recommendation. Admission is offered for fall semester only.

Applicants must hold a master's degree from an accredited institution, preferably in criminal justice, health, public administration or social work. Applicants with a master's degree in a field not directly related to public affairs may be required to take courses at the master's level in preparation for doctoral level study. Any requirements for preparatory course work will be communicated at the time of acceptance into the program and will generally be taken prior to beginning doctoral level course work. These courses, if required, will not substitute for the listed doctoral degree requirements. Admission is offered for fall semester only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended for both bachelor's and master's degrees.
- Official, competitive GRE score taken within the last five years.
- A narrative statement of 1000 words or less describing the applicant's educational expectations, career aspirations, level of computer skills, and any special qualifications or experiences that may enhance the overall learning environment of the PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant's ability to succeed in a doctoral program.

The Public Affairs Program Admissions Committee will begin reviewing applicant files once the student has submitted all of the above documents. Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. The Admissions Committee will base final admission on the evaluation of the applicant's abilities, past performance, recommendations, match to the program, correspondence of the applicant's career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

Application Deadlines

Criminal Justice	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Robyne Stevenson PhD
Associate Professor
Program Director
robyne.stevenson@ucf.edu
407-823-3459
HPA 1, Room 220

Public Affairs PhD

Governance and Policy Research

TRACK DESCRIPTION

Admission to this program track has been suspended effective Summer 2015.

The Governance and Policy Track in the Public Affairs PhD program prepares students to perform policy-relevant research concerned with governance and public policy issues, primarily those with national and global implications. Students are empowered to provide unbiased, evidence-based information that is directly relevant to real public-policy problems.

CURRICULUM

Total Credit Hours Required:

60 Credit Hours Minimum beyond the Master's Degree

Students must complete 60 credit hours beyond the master's degree, including 15 courses (45 credit hours) above the master's level distributed in the following manner:

- a three-course, 9-credit required Public Affairs substantive core
- a six-course, 18-credit required Public Affairs methodological and statistical core
- a three-course, 9-credit required discipline-specific specialization
- a two-course, 6-credit hour electives (may be taken outside the student's discipline)
- a one course, 3-credit required Public Affairs practicum
- 15 credit hours of dissertation minimum

Students are required to take a statistical assessment the summer semester prior to their entering the program fall semester. This assessment will be used to determine a student's statistical knowledge and competency. Students that receive a passing score will be exempt from taking a 6XXX level statistics course. Those students requiring the 6XXX level course will meet with the Track Coordinator to determine which course will meet the requirement. Students are required to complete and pass the course prior to registering in PAF 7804 Quantitative I: Multivariate Analysis. The 6XXX level course credit hours may be included in the student's program of study as an elective.

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track specialization and general elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Director. Transfer work will not be accepted into the PAF substantive or methodological core components.

A grade of B- or better is required in all courses. Students receiving a grade of "C+" or lower will be required to repeat the course and receive a grade or B- or better prior to taking the Qualifying Exam. Any student who receives more than one grade of "C+" or lower in their doctoral course work may be dismissed from the Public Affairs program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

Required Courses—45 Credit Hours

Public Affairs Substantive Core—9 Credit Hours

- PAF 7000 Foundations of Public Affairs: People, Places, Policies and Paradigms (3 credit hours)
- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)
- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

Methodological and Statistical Core—18 Credit Hours

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

Advanced Methodology

Choose one of the following courses:

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7856 Structural Equation Modeling in Public Affairs (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

Practicum—3 Credit Hours

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7947). Led by a professor, the practicum provides students with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to the community while bringing the community into the university.

Track Specialization—9 Credit Hours

Students are required take the following three courses and attain a "B-" or higher::

- PAF 7055 Seminar in State and Local Government Policy Research (3 credit hours)
- PAF 7510 Seminar in Policy Evaluation and Performance Measurement (3 credit hours)
- PAF 7858 Advanced Seminar in Governance and Policy Research (3 credit hours)

Elective—6 Credit Hours

Choose two additional courses from the following courses:

- PAF 7757 Seminar in Global Governance and Policy Research (3 credit hours)
- PAF 7855 Seminar in Policy Informatics (3 credit hours)
- See adviser for appropriate methodological elective (3 credit hours)
- Directed independent study (3 credit hours)
- Or other course that will add to the student's course of study. Requires approval of adviser. (3 credit hours)

Dissertation—15 Credit Hours

- PAF 7980 Dissertation Research

Assignment of Faculty Advisers

Upon acceptance of a student into the program, the PAF Program Director provides students with an initial orientation and a general advising session. The Track Coordinator in conjunction with the PAF Director helps the student throughout the foundation stage of the program, assisting in the clarification of interests and goals and facilitating the introduction of students to faculty and research interests that can advance the student's program of study. Governance and Policy Research Track students will be advised by the Governance and Policy Research Track Coordinator. The Track Coordinator assists the student in selecting elective courses, finalizing the program of study, and facilitating discussion with faculty members who have similar research interests. Discussion and review of dissertation topics should take place with the faculty member who has agreed to chair the dissertation committee. The dissertation chair is to be selected by the student prior to commencing the dissertation prospectus.

Qualifying Examination

Following successful completion of all required courses, students are required to pass a qualifying examination. The examination is given following finals during fall and spring semesters. Students are given two opportunities to pass all sections of the exam. Students who fail any section twice are dismissed from the program. Any student who fails any section of the qualifying exam twice will not be readmittted to the PAF program. This policy includes all tracks and/or any masters to PhD program(s) within the PAF program.

Candidacy Status

Students officially enter candidacy when the following has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the qualifying examination.
- The dissertation advisory committee is formed and has been reviewed and accepted by the PAF Director. Members of the committee are to be approved graduate faculty and graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to turnitin.com. Subsequent results to be within acceptable rating.
- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices.

Equipment Fee

Full-time students in the Public Affairs Program pay a $40 equipment fee each semester that they are enrolled. Part-time students pay $20 per semester.

APPLICATION REQUIREMENTS

Applicants must possess a master's degree from an accredited institution, preferably in a field related to criminal justice, health, public administration or social work. Applicants without a master's degree in a field directly related to public affairs may be required to take courses at the master's level in preparation for doctoral level study, which will be communicated if a student is accepted into the program. In addition to the general UCF graduate application requirements, applicants to this program must provide an offical, competitive GRE score taken within the last five years, a goal statement, résumé, writing sample, and three letters of recommendation.

Applicants must hold a master's degree from an accredited institution, preferably in criminal justice, health, public administration or social work. Applicants who do not have a master's degree in a field directly related to public affairs may be required to take courses at the master's level in preparation for doctoral level study. This preparatory course work requirement will be communicated at the time of acceptance into the program. These courses will not substitute for the doctoral degree requirements and will generally be taken prior to beginning the doctoral level course work. Admission is offered for fall semester only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended for both bachelor's and master's degrees.
- Official, competitive GRE score taken within the last five years.
- A narrative statement of 1000 words or less describing the applicant's educational expectations, career aspirations, level of computer skills, and any special qualifications or experiences that may enhance the overall learning environment of the PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant's ability to succeed in a doctoral program.

Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match to the program, correspondence of the applicant's career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

Application Deadlines

Governance and Policy Research	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				
International Transfer Applicants				

CONTACT INFO

Lawrence Martin PhD
Professor
Other
lawrence.martin@ucf.edu
407-823-5731
HPA1 218

Public Affairs PhD

Health Services Management and Research

TRACK DESCRIPTION

A dynamic mix in the Public Affairs Doctoral Program of an interdisciplinary faculty and students from varied backgrounds creates a stimulating environment in which to examine contemporary organizational, institutional and community challenges. Graduates of the PAF Doctoral Program possess the theoretical, analytical and ethical foundation to discover new knowledge that will impact affirmatively public policy decisions and develop programs and systems that will enhance the delivery of services to an expectant and unyielding public.

CURRICULUM

Students must complete 60 credit hours beyond the master's degree distributed in the following manner:

- a three-course, 9-credit required Public Affairs substantive core
- a six-course, 18-credit required Public Affairs methodological and statistical core
- a three-course, 9-credit required discipline-specific specialization
- a two-course, 6-credit unrestricted elective requirement
- a one course, 3-credit required Public Affairs practicum
- 15 credit hours of dissertation minimum

Total Credit Hours Required:

60 Credit Hours Minimum beyond the Master's Degree

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track specialization and general elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Director. Transfer work will not be accepted into the PAF substantive or methodological core components.

A grade of B- or better is required in all substantive core and methodological core courses. Students receiving a grade of "C+" or lower will be required to repeat the course and receive a grade of B- or better prior to taking the Research Proficiency Exam and Qualifying Exam. Any student who receives more than one "C" in their doctoral course work may be dismissed from the program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

Required Courses—45 Credit Hours

Public Affairs Substantive Core—9 Credit Hours

- PAF 7000 Foundations of Public Affairs: People, Places, Policies and Paradigms (3 credit hours)

- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)
- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

Methodological and Statistical Core—18 Credit Hours

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

Advanced Methodology

Choose one of the following courses:

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7856 Structural Equation Modeling in Public Affairs (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

Practicum—3 Credit Hours

- PAF 7947 Practicum in Community-Based Research (3 credit hours)

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7947). Led by a professor, the practicum provides the student with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to the community while bringing the community into the university.

Track Specialization—15 Credit Hours

Students are required to take the following three courses:

- HSA 7116 Theories in Healthcare Management (3 credit hours)
- HSA 7936 Advanced Seminar in Health Economics (3 credit hours)
- HSA 7938 Advanced Seminar in Health Services Research (3 credit hours)

Choose two additional courses from the following list:

- HSA 6108 Healthcare Strategic Management (3 credit hours)
- HSA 6128 Services Management (3 credit hours)
- HSA 6342 Healthcare Human Resources Management (3 credit hours)
- PHC 6000 Epidemiology (3 credit hours)
- PHC 6146 Health Planning and Policy (3 credit hours)
- PHC 6160 Healthcare Finance and Insurance (3 credit hours)
- HSA 7125 Globalization and Health (3 credit hours)
- See adviser for appropriate methodological elective (3 credit hours)
- Directed independent study (3 credit hours)
- Or other course that will add to the student's course of study. Requires approval of adviser. (3 credit hours)

Dissertation—15 Credit Hours

- PAF 7980 Dissertation Research

Assignment of Faculty Advisers

Upon acceptance of a student into the program, the program director provides students with an initial orientation and a general advising
session. The Track Coordinator in conjunction with the PAF Director helps the student throughout the foundation stage of the program, assisting in the clarification of interests and goals and facilitating the introduction of students to faculty and research interests that can advance the student's program of study. Health Services Management and Research Track students will be advised by the Health Services Management and Research Track Coordinator.
The Track Coordinator assists the student in selecting elective courses, finalizing the program of study, and facilitating discussion with faculty members who have similar research interests. Discussion and review of dissertation topics should take place with the faculty member who has agreed to chair the dissertation committee. The dissertation chair is to be selected by the student prior to commencing the dissertation prospectus.

Research Proficiency Exam and Qualifying Exam

Upon successful completion of the required courses and the required Practicum course, students are required to take a Research Proficiency Exam (RPE) and Qualifying Exam (QE). The Research Proficiency Exam will be taken after the successful completion of the Methodological Core courses. Following successful completion of all PAF core courses (not including Track Specialization courses), students are required to pass a Qualifying Exam. The exam is given following finals in the fall or spring semesters.

Students are given two opportunities to pass the RPE and the QE. Students who fail any section twice are dismissed from the program. Any student who fails any the RPE twice or the QE twice will not be readmitted into the PAF program. This policy includes all tracks and/or any master's to PhD program(s) within the PAF program. Please refer to the student handbook for further information.

Candidacy Status

Students officially enter candidacy when the following work has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the Research Proficiency Exam and Qualifying Exam.
- The dissertation advisory committee is formed and has been reviewed and approved by the PAF Program and the College of Graduate Studies. Members of the committee are to be approved graduate faculty or graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to turnitin.com. Subsequent results to be within acceptable rating.

- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices.

Equipment Fee

Full-time students in the Public Affairs Program pay a $40 equipment fee each semester that they are enrolled. Part-time students pay $20 per semester.

APPLICATION REQUIREMENTS

Applicants must possess a master's degree from an accredited institution, preferably in a field related to criminal justice, health, public administration or social work. Applicants with a master's degree in a field not directly related to public affairs may be required to take courses at the master's level in preparation for doctoral level study. In addition to the general UCF graduate application requirements, applicants to this program must provide an offical, competitive GRE score taken within the last five years, a goal statement, résumé, writing sample, and three letters of recommendation.

Applicants must hold a master's degree from an accredited institution, preferably in criminal justice, health, public administration or social work. Applicants with a master's degree in a field not directly related to public affairs may be required to take courses at the master's level in preparation for doctoral level study. Any requirements for preparatory course work will be communicated at the time of acceptance into the program and will generally be taken prior to beginning doctoral level course work. These courses, if required, will not substitute for the listed doctoral degree requirements. Admission is offered for fall semester only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended for both bachelor's and master's degrees.
- Official, competitive GRE score taken within the last five years.
- A narrative statement of 1000 words or less describing the applicant's educational expectations, career aspirations, level of computer skills, and any special qualifications or experiences that may enhance the overall learning environment of the PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant's ability to succeed in a doctoral program.

The Public Affairs Program Admissions Committee will begin reviewing applicant files once the student has submitted all of the above documents. Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. The Admissions Committee will base final admission on the evaluation of the applicant's abilities, past performance, recommendations, match to the program, correspondence of the applicant's career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

Application Deadlines

Health Services Management and Research	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Robyne Stevenson PhD
Associate Professor
Program Director
robyne.stevenson@ucf.edu
407-823-3459
HPA 1, Room 220

Public Affairs PhD

Public Administration

TRACK DESCRIPTION

The Public Administration Track integrates the historical evolution of the public administration field, the current challenges in theory and practice in our increasingly interconnected society, and the future directions needed as a discipline and society to achieve responsive solutions to complex public problems.

CURRICULUM

Students must complete 60 credit hours beyond the master's degree distributed in the following manner:

- a three-course, 9-credit required Public Affairs substantive core
- a six-course, 18-credit required Public Affairs methodological and statistical core
- a three-course, 9-credit required discipline-specific specialization
- a two-course, 6-credit unrestricted elective requirement
- a one course, 3-credit required Public Affairs practicum
- 15 credit hours of dissertation minimum

Total Credit Hours Required:

60 Credit Hours Minimum beyond the Master's Degree

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track specialization and general elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Director. Transfer work will not be accepted into the PAF substantive or methodological core components.

A grade of B- or better is required in all courses, including Substantive Core, Methodological Core and Track Specialization/Elective courses. Students receiving a grade of C+ or below in the Substantive Core or Methodological Core courses must repeat the course and receive an acceptable grade prior to taking the Research Proficiency Exam and Qualifying Exam. Any student who receives more than one "C" in their doctoral course work may be dismissed from the program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

Required Courses—45 Credit Hours

Public Affairs Substantive Core—9 Credit Hours

- PAF 7000 Foundations of Public Affairs: People, Places, Policies and Paradigms (3 credit hours)
- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)
- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

Methodological and Statistical Core—18 Credit Hours

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

Advanced Methodology

Choose one of the following courses:

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7856 Applications of Structural Equation Modeling in Public Affairs (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

Practicum—3 Credit Hours

- PAF 7947 Practicum in Community-Based Research (3 credit hours)

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7947). Led by a professor, the practicum provides the student with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to the community while bringing the community into the university.

Track Specialization—9 Credit Hours

Students are required take the following three courses and attain a "B" or higher:

- PAD 7026 Advanced Seminar in Public Administration (3 credit hours)
- PAD 7057 Advanced Public Management (3 credit hours)
- PAD 7827 Network Governance (3 credit hours)

Choose two additional elective courses from the following:

- PAD 7317 Program Design and Management (3 credit hours)
- PAD 7707 Advanced Research in Public Administration (3 credit hours)
- See adviser for appropriate methodological elective (3 credit hours)
- Directed independent study (3 credit hours)
- Or other course that will add to the student's course of study. Requires approval of adviser. (3 credit hours)

Dissertation—15 Credit Hours

- PAF 7980 Dissertation Research

Assignment of Faculty Advisers

Upon acceptance of a student into the program, the program director provides students with an initial orientation and a general advising session. The Track Coordinator in conjunction with the PAF Director helps the student throughout the foundation stage of the program, assisting in the clarification of interests and goals and facilitating the introduction of students to faculty and research interests that can advance the student's program of study. Public Administration Track students will be advised by the Public Administration Track Coordinator. The Track Coordinator assists the student in selecting elective courses, finalizing the program of study, and facilitating discussion with faculty members who have similar research interests. Discussion and review of dissertation topics should take place with the faculty member who has agreed to chair the dissertation committee. The dissertation chair is to be selected by the student prior to commencing the dissertation prospectus.

Research Proficiency Exam and Qualifying Exam

Upon successful completion of the required courses and the required Practicum course, students are required to take a Research Proficiency Exam (RPE) and Qualifying Exam (QE). The Research Proficiency Exam will be taken after the successful completion of the Methodological Core courses. Following successful completion of all PAF core courses (not including Track Specialization courses), students are required to pass a Qualifying Exam. The exam is given following finals in the fall or spring semesters.

Students are given two opportunities to pass the RPE and the QE. Students who fail any section twice are dismissed from the program. Any student who fails any the RPE twice or the QE twice will not be readmitted into the PAF program. This policy includes all tracks and/or any masters to PhD program(s) within the PAF program. Please refer to the student handbook for further information.

Candidacy Status

Students officially enter candidacy when the following has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the Research Proficiency Exam and Qualifying Exam.
- The dissertation advisory committee is formed and has been reviewed and approved by the PAF Director and the College of Graduate Studies. Members of the committee are to be approved graduate faculty or graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to turnitin.com. Subsequent results to be within acceptable rating.
- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices..

Equipment Fee

Full-time students in the Public Affairs Program pay a $40 equipment fee each semester that they are enrolled. Part-time students pay $20 per semester.

APPLICATION REQUIREMENTS

Applicants must possess a master's degree from an accredited institution, preferably in a field related to criminal justice, health, public administration or social work.Applicants with a master's degree in a field not directly related to public affairs may be required to take courses at the master's level in preparation for doctoral level study. In addition to the general UCF graduate application requirements, applicants to this program must provide an offical, competitive GRE score taken within the last five years, a goal statement, résumé, writing sample, and three letters of recommendation. Admission is offered for fall semester only.

Applicants must hold a master's degree from an accredited institution, preferably in criminal justice, health, public administration or social work. Applicants with a master's degree in a field not directly related to public affairs may be required to take courses at the master's level in preparation for doctoral level study. Any requirements for preparatory course work will be communicated at the time of acceptance into the program and will generally be taken prior to beginning doctoral level course work. These courses, if required, will not substitute for the listed doctoral degree requirements. Admission is offered for fall semester only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended for both bachelor's and master's degrees.
- Official, competitive GRE score taken within the last five years.
- A narrative statement of 1000 words or less describing the applicant's educational expectations, career aspirations, level of computer skills, and any special qualifications or experiences that may enhance the overall learning environment of the PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant's ability to succeed in a doctoral program.

The Public Affairs Program Admissions Committee will begin reviewing applicant files once the student has submitted all of the above documents. Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. The Admissions Committee will base final admission on the evaluation of the applicant's abilities, past performance, recommendations, match to the program, correspondence of the applicant's career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

Application Deadlines

Public Administration	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Thomas Bryer PhD
Assistant Professor
Program Director
Thomas.bryer@ucf.edu

407-823-0410
HPA 238E

Public Administration MPA Dual Degree

TRACK DESCRIPTION

The Public Affairs PhD - Public Administration MPA Dual Degree Track provides academically talented students an opportunity to earn the Doctor of Philosophy in Public Affairs and the Master of Public Administration degrees concurrently. Students successfully completing the PhD/MPA Dual Degree program will have the skills and analytical techniques for careers in academia or in the public and nonprofit sectors. After successful completion of the PhD/MPA Dual Degree program, students will receive two diplomas, one for the Public Administration MPA degree and one for the Public Affairs PhD degree.

Students seeking admission to the PhD/MPA Dual Degree program should apply directly to the Public Affairs PhD - Public Administration MPA Dual Degree Track. Only one application will be required. If admitted, student will be active in both the Public Administration MPA and the Public Affairs PhD programs.

CURRICULUM

The Public Administration MPA Dual Degree track in the Public Affairs PhD program consists of 84 credit hours, including 63 credit hours of required courses, 6 credit hours of electives approved by the student's faculty adviser or program director, and 15 credit hours of dissertation. For required courses, students first complete seven core courses plus the capstone course for the MPA program (24 credit hours), and then take four Public Affairs substantive core courses and six Public Affairs methodological and statistical core courses for the PhD program (30 credit hours), plus three courses (9 credit hours) from the Public Administration track in the PhD program.

Total Credit Hours Required:

84 Credit Hours Minimum beyond the Bachelor's Degree

A maximum of 6 credit hours of Independent Study may be used as electives with adviser’s approval.

A grade of "B-" or better is required in all courses listed under the MPA requirement and Public Affairs requirements. Students receiving a grade below a "B-" in the Substantive Core or Methodological Core must repeat the course and receive an acceptable grade prior to taking the Research Proficiency Exam and Qualifying Exam. Any student who receives more than one grade of "C" in their doctoral course work may be dismissed from the program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their master's level or doctoral course work will be dismissed from the program.

Required Courses—63 Credit Hours

Required Courses for MPA—24 Credit Hours

In addition to the following required courses, the MPA degree will include 6 credit hours of advanced research methods and quantitative methods in Public Affairs and 12 credit hours of electives that are incorporated into the prescribed PhD curriculum.

- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- PAD 6037 Public Organization Management (3 credit hours)
- PAD 6053 Public Administrators in the Governance Process (3 credit hours)
- PAD 6207 Public Financial Management (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- PAD 6062 Advanced Concepts and Applications in Public Administration (3 credit hours)

Required Courses for PhD—39 Credit Hours

Public Affairs Substantive Core—9 Credit Hours

- PAF 7000 Foundations in Public Affairs (3 credit hours)
- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)
- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

Methodological and Statistical Core—18 Credit Hours

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

Advanced Methodology (Select one course):

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7856 Applications of Structural Equation Modeling in Public Affairs (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

Practicum—3 Credit Hours

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7XXX). Led by a professor, the practicum provides the student with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to the community while bringing the community into the university.

Track Specialization—9 Credit Hours

Students take the following three courses:

- PAD 7026 Advanced Seminar in Public Administration (3 credit hours)
- PAD 7057 Advanced Public Management (3 credit hours)
- PAD 7827 Collaborative Public Management (3 credit hours)

Elective Courses—6 Credit Hours

The two required elective courses (3 credit hours each) offered within the dual degree provide an emphasis on public and nonprofit management; however, other emphases may be developed in consultation with the adviser. With prior approval from the Program Director, up to 6 credit hours of elective course work may be taken from outside the department. Students must show that elective courses taken outside of the department directly support an academic or professional career in public administration.

Students take two of the following courses:

- PAD 7317 Program Design and Management (3 credit hours)
- PAD 7707 Advanced Research in Public Administration (3 credit hours)
- Methodological elective approved by adviser (3 credit hours)
- Directed independent study (3 credit hours)
- Or other course that will add to the student's course of study. Requires approval of adviser. (3 credit hours)

Dissertation—15 Credit Hours

- PAF 7980 Dissertation Research

Research Proficiency Exam and Qualifying Exam

Upon successful completion of the required courses and the required Practicum course, students are required to take a Research Proficiency Exam (RPE) and Qualifying Exam (QE). The Research Proficiency Exam will be taken after the successful completion of the Methodological Core courses. Following successful completion of all PAF core courses (not including Track Specialization courses), students are required to pass a Qualifying Exam. The exam is given following finals in the fall or spring semesters.

Students are given two opportunities to pass the RPE and the QE. Students who fail any section twice are dismissed from the program. Any student who fails any the RPE twice or the QE twice will not be readmitted into the PAF program. This policy includes all tracks and/or any masters to PhD program(s) within the PAF program. Please refer to the student handbook for further information.

Candidacy

Students officially enter candidacy when the following has been accomplished:

- Completion of all course work, except for dissertation hours.

- Successful completion of the Research Proficiency Exam and Qualifying Exam.
- The dissertation advisory committee is formed and has been approved by the PAF Program Director and the College of Graduate Studies. Members of the committee are to be approved graduate faculty or graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to turn-it-in.com. Subsequent results to be within acceptable rating.
- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices.

Additional Program Requirements

Students initially admitted to the MPA/PhD dual degree program who subsequently decide they only want to receive the MPA degree may have all applicable courses completed as part of the two degree programs applied to the MPA degree program without being counted as transfer courses.

Equipment Fee

Full-time students in the Public Affairs PhD Program pay a $40 equipment fee each semester that they are enrolled. Part-time students pay $20 per semester.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum, through the process of inquiry and dialogue. Tangible projects, such as research scholarly papers and the dissertation contribute to the self development of MPA/PhD students.

APPLICATION REQUIREMENTS

Application to the Master of Public Administration/Doctor of Philosophy in Public Affairs Dual Degree (MPA/PhD Dual Degree) is a two-step process. To be considered, applicants must apply and be accepted to both the:

a. **Master of Public Administration (Public Affairs PhD Dual Degree track**) and the

b. **Doctoral Program in Public Affairs PhD (Public Administration MPA Dual Degree track**)

The MPA/PhD Dual Degree program is competitive. Applicants meeting the minimum requirements for both programs are not guaranteed admission to the dual degree program.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- A narrative statement of 1000 words or less describing the applicant's educational expectations, career aspirations, level of computer skills, and any special qualifications or experiences that may enhance the overall learning environment of the PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant's ability to succeed in a doctoral program.

The Public Affairs Program Admissions Committee will begin reviewing applicant files once the student has submitted all of the above documents. Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. The Admissions Committee will base final admission on the evaluation of the applicant's abilities, past performance, recommendations, match to the program, correspondence of the applicant's career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

Application Deadlines

Public Administration MPA Dual Degree	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Thomas Bryer PhD
Assistant Professor
Program Director
thomas.bryer@ucf.edu
407-823-0410
HPA 238E

Public Affairs PhD

Social Work

TRACK DESCRIPTION

The Social Work Track in the Public Affairs PhD program prepares students for university faculty and research positions, as well as leadership roles in public, non-profit and private human service, health and community-based agencies, drawing upon research and evaluation skills. The track is designed to: (1) to develop student learning and competencies for social work scholarship and research, incorporating disciplinary knowledge in interdisciplinary contexts, and (2) to foster student learning in domains relevant to social work research in the 21st Century; namely through the understanding and application of concepts and tools in knowledge translation, evaluation, evidence-based research, the design of innovative social ventures, and the development and testing of interventions for improving social service practice, social welfare and social policy. Students applying to this track must have a Master of Social Work (MSW) for consideration.

CURRICULUM

Students must complete 60 credit hours beyond the master's degree distributed in the following manner:

- a three-course, 9-credit required Public Affairs substantive core
- a six-course, 18-credit required Public Affairs methodological and statistical core
- a three-course, 9-credit required discipline-specific specialization
- a two-course, 6-credit unrestricted elective requirement
- a one course, 3-credit required Public Affairs practicum
- 15 credit hours of dissertation minimum

Total Credit Hours Required:

60 Credit Hours Minimum beyond the Master's Degree

A maximum of 6 credit hours of Independent Study may be used as electives with adviser's approval.

Transfer work will only be accepted by the Public Affairs PhD program if taken as part of an approved plan of study for a doctoral program at UCF or elsewhere. A maximum of 6 credit hours taken at the doctoral level may be considered for transfer. The acceptance of transfer credit into the track specialization or general elective component is dependent upon the approval of the Track Coordinator in consultation with the PAF Director. Transfer work will not be accepted into the PAF substantive or methodological core components..

A grade of B- or better is required in all Substantive Core and Methodological Core courses. Students receiving a grade of "C+" or lower will be required to repeat the course and receive a grade of B- or better prior to taking the Research Proficiency Exam and Qualifying Exam. Any student who receives more than one "C" in their doctoral course work may be dismissed from the program.

A minimum of 3.0 graduate status GPA and program of study GPA is required to maintain graduate student status and for graduation. Students with a GPA less than 3.0 may be dismissed from the program.

Any student who receives an "F" grade in their doctoral course work will be dismissed from the program.

Required Courses—45 Credit Hours

Public Affairs Substantive Core—9 Credit Hours

- PAF 7000 Foundations of Public Affairs: People, Places, Policies and Paradigms (3 credit hours)
- PAF 7230 Strategic Change and Management for Public Affairs (3 credit hours)
- PAF 7317 Social Inquiry and Public Policy (3 credit hours)

Methodological and Statistical Core—18 Credit Hours

- PAF 7802 Advanced Research Methodology for Public Affairs I (3 credit hours)
- PAF 7804 Advanced Statistics for Public Affairs I: Multivariate Analysis (3 credit hours)
- PAF 7805 Advanced Statistics for Public Affairs II: Survey of Statistical Methods (3 credit hours)
- PAF 7820 Qualitative Methods for Public Affairs (3 credit hours)
- PAF 7325 Policy and Program Evaluation for Public Affairs (3 credit hours)

Advanced Methodology

Choose one of the following courses:

- PAF 7868 Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods (3 credit hours)
- PAF 7856 Applications of Structural Equation Modeling in Public Affairs (3 credit hours)
- Pre-approved methodological or statistical course (3 credit hours)

Practicum—3 Credit Hours

At the end of the required coursework, students will take the Practicum in Community-Based Research course (PAF 7947). Led by a professor, the practicum provides the student with the opportunity to work within an interdisciplinary team to use their substantive learning and apply their methodological and statistical tools to a real community problem. This experiential learning brings the student out to the community while bringing the community into the university.

Track Specialization—9 Credit Hours

Students are required take the following three courses and attain a "B-" or higher:

- SOW 6383 Social Work Administration (3 credit hours)
- SOW 7492 Theory Development in Social Work and Applied Social Science Research (3 credit hours)
- SOW 7494 Conducting Evidence-based Research in Social Work and Allied Fields (3 credit hours)

Electives—6 Credit Hours

Choose two additional courses from the following:

- SOW 7397 Social Entrepreneurship in Public and Social Sectors (3 credit hours)
- See adviser for appropriate methodological elective (3 credit hours)
- Directed reading (3 credit hours)
- Directed independent study (3 credit hours)
- Or other course that will add to the student's course of study. Requires approval of adviser. (3 credit hours)

Dissertation—15 Credit Hours

- PAF 7980 Dissertation Research

Assignment of Faculty Advisers

Upon acceptance of a student into the program, the program director provides students with an initial orientation and a general advising
session. The Track Coordinator in conjunction with the PAF Director helps the student throughout the foundation stage of the program, assisting in the clarification of interests and goals and facilitating the introduction of students to faculty and research interests that can advance the student's program of study. Social Work Track students will be advised by the Social Work Track Coordinator.
The Track Coordinator assists the student in selecting elective courses, finalizing the program of study, and facilitating discussion with faculty members who have similar research interests. Discussion and review of dissertation topics should take place with the faculty member who has agreed to chair the dissertation committee. The dissertation chair is to be selected by the student prior to commencing the dissertation prospectus.

Research Proficiency Exam and Qualifying Exam

Upon successful completion of the required courses and the required Practicum course, students are required to take a Research Proficiency Exam (RPE) and Qualifying Exam (QE). The Research Proficiency Exam will be taken after the successful completion of the Methodological Core Courses. Following successful completion of all PAF core courses (not including Track Specialization Courses), students are required to pass a Qualifying Exam. The exam is given following finals in the fall or spring semesters.

Students are given two opportunities to pass the RPE and the QE. Students who fail any section twice are dismissed from the program. Any student who fails any the RPE twice or the QE twice will not be readmitted into the PAF program. This policy includes all tracks and/or any masters to PhD program(s) within the PAF program. Please refer to the student handbook for further information.

Candidacy Status

Students officially enter candidacy when the following has been accomplished:

- Completion of all course work, except for dissertation hours.
- Successful completion of the Research Proficiency Exam and Qualifying Exam.
- The dissertation advisory committee is formed and has been reviewed and approved by the PAF Director and the College of Graduate Studies. Members of the committee are to be approved graduate faculty or graduate faculty scholars.
- Submittal of an approved graduate program of study.
- Submission of dissertation prospectus to turnitin.com. Subsequent results to be within acceptable rating.
- Successful defense of the dissertation prospectus.
- All approved documentation has been received by the PAF and Graduate offices.

Equipment Fee

Full-time students in the Public Affairs Program pay a $40 equipment fee each semester that they are enrolled. Part-time students pay $20 per semester.

APPLICATION REQUIREMENTS

Applicants must possess a master's degree in Social Work from an accredited institution. In addition to the general UCF graduate application requirements, applicants to this program must provide an offical, competitive GRE score taken within the last five years, a goal statement, résumé, writing sample, and three letters of recommendation. Admission is offered for fall semester only.

Applicants must hold a master's degree in Social Work from an accredited institution. Admission is offered for fall semester only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended for both bachelor's and master's degrees.
- Official, competitive GRE score taken within the last five years.
- A narrative statement of 1000 words or less describing the applicant's educational expectations, career aspirations, level of computer skills, and any special qualifications or experiences that may enhance the overall learning environment of the PAF program.
- Résumé.
- A writing sample, i.e., academic paper, report, etc.
- Three letters of recommendation from faculty or professionals who can assess the applicant's ability to succeed in a doctoral program.

The Public Affairs Program Admissions Committee will begin reviewing applicant files once the student has submitted all of the above documents. Admission to the Doctoral Program in Public Affairs is granted on a competitive basis. Meeting minimum UCF admission standards does not guarantee program admissions. The Admissions Committee will base final admission on the evaluation of the applicant's abilities, past performance, recommendations, match to the program, correspondence of the applicant's career and academic interests with those of the core and affiliated faculty, and potential for completing the degree and making a significant contribution to Public Affairs.

Application Deadlines

Social Work	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Robyne Stevenson PhD
Associate Professor
Program Director
robyne.stevenson@ucf.edu
407-823-3459
HPA 1, Room 220

Security Studies PhD

PROGRAM DESCRIPTION

It is expected that the majority of graduates will work in military and other governmental organizations, international corporations, and agencies that deal with security. Others will seek employment in research and teaching in institutions of higher education.

CURRICULUM

The PhD degree consists of 62 credit hours beyond the master‘s degree. A master‘s degree is required for admission to the program with at least 30 credit hours of master‘s level work (including both course work and thesis hours). The 62 credit hours consist of 17 credit hours of required courses, 15 credit hours of restricted electives, 12 hours of unrestricted electives (including courses offered in other departments, research, independent study, and internship), and a minimum of 18 credit hours of dissertation work

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Total Credit Hours Required:

62 Credit Hours Minimum beyond the Master's Degree

Required Courses—17 Credit Hours

Core Courses—15 Credit Hours

- INR 7687 Theoretical Approaches to Security Studies (3 credit hours)
- INR 7139 Issues in Domestic Security (3 credit hours)
- INR 7337 Issues in International Security (3 credit hours)
- POS 7745 Advanced Quantitative Methods in Political Research (3 credit hours)
- POS 7707 Advanced Qualitative Methods in Political Research (3 credit hours)

Professional Development Courses—2 Credit Hours

- POS 7930 Professional Development in Security Studies I (1 credit hour)
- POS 7267 Professional Development in Security Studies II (1 credit hour)

Elective Courses—27 Credit Hours

Restricted Electives—15 Credit Hours

All students in the doctoral program must complete a minimum of 15 hours of course work in approved restricted elective graduate seminars. The choice of specific courses will be based on the research interests of students and made in conjunction with their faculty advisor. In this way, students achieve two distinct but related goals: a broad competence in the variety of methodological, theoretical, and substantive approaches to security studies and advanced proficiency in the areas that are most germane to their research interests. Approved restricted electives include:

- CPO 6038 Political Development (3 credit hours)
- CPO 6058 Revolution and Political Violence (3 credit hours)
- CPO 6307 Issues in Latin American Politics (3 credit hours)
- CPO 6729 Global Security in the Age of Migration (3 credit hours)
- CPO 6776 Comparative Rising Powers (3 credit hours)
- CPO 6785 Political and Economic Inequality in Comparative Perspective (3 credit hours)
- INR 6062 Peace Studies (3 credit hours)
- INR 6065 Seminar on War (3 credits)
- INR 6067 Human Rights and Security (3 credit hours)

- INR 6068 Politics of Civil Wars (3 credit hours)
- INR 6096 International Drug Policy (3 credit hours)
- INR 6136 Seminar in American Security Policy (3 credit hours)
- INR 6137 Terrorism and Politics (3 credit hours)
- INR 6108 Seminar in American Foreign Policy (3 credit hours)
- INR 6228 International Politics of the Caspian Sea Region (3 credit hours)
- INR 6275 International Politics of the Middle East (3 credit hours)
- INR 6339 Strategic Warning Analysis (3 credit hours)
- INR 6346 Politics of International Terrorism (3 credit hours)
- INR 6356 Environmental Security (3 credit hours)
- INR 6365 Seminar on Intelligence (3 credit hours)
- INR 6366 The Intelligence Community (3 credit hours)
- POS 6686 National Security Law (3 credit hours)
- INR 6726 Political Behavior in International Conflict (3 credit hours)
- POS 6743 Geographic Tools for Political Science Research (3 credit hours)
- POS 6747 Advanced Topics in Quantitative Political Analysis (3 credit hours)
- POS 6938 Special Topics/Political Analysis (3 credit hours)

Unrestricted Electives—12 Credit Hours

The unrestricted electives provide students with an opportunity to further expand their doctoral training beyond the program's core courses and the restricted electives. Unrestricted electives may include regularly scheduled graduate courses in political science, graduate-level courses in programs outside the department, independent study courses, doctoral research courses with a highly focused student/faculty research component, and internships that enable students to gain valuable experience in a non-academic setting. Unrestricted electives may be taken at any point in the student's program of study; however, no more than a total of twelve hours of graduate course work can be from outside of the department, dissertation research, independent study, or internship combined; in addition, no more than a total of six hours can be from either independent study or internship. Students with suitable academic backgrounds may work in areas such as cyber security or science and technology taking courses in relevant departments. A student's faculty advisor and the department's Graduate Program Director must approve all graduate courses taken outside of the department as well as any internships.

Modern Language or Methods Requirement

Prior to enrollment in dissertation hours, students are required to demonstrate proficiency in one modern language (other than English) or an additional methodological course dependent on the student's intended research area. The language requirement is two years (four semesters) of a single college-level modern language, which should normally be in an area relevant to the student's research. Students may meet the requirement by providing evidence of four semesters of enrollment or by passing a university-administered equivalent proficiency examination. The methods requirement is met by taking a methods course as part of the elective course requirements, with the approval of the Graduate Program Director.

Dissertation—Minimum of 18 Credit Hours

The dissertation is the culmination of the course work that comprises this research-based degree. It must make a significant theoretical, historical, intellectual, practical, creative, or research contribution to the student‘s area within the discipline. The dissertation will be completed through a minimum of 18 hours of dissertation credit, which students will use to accomplish original research. Students must maintain enrollment in dissertation hours until the degree is awarded.

- POS 7980 Dissertation Research (18 credit hours)

Oral Qualifying Examination

The oral qualifying examination is given at the end of the semester in which core course work is completed. It will examine students on theoretical, epistemological, and methodological literature and issues from the five required core courses, although the scope of the examination is not limited to topics covered in the seminars. The exam is administered by the student's Pre-dissertation Advisory Committee, which will advise the student until it is replaced by the Dissertation Advisory Committee. It is up to the student to arrange the make-up of their Pre-dissertation Advisory Committee and schedule the oral qualifying exam before the end of May of their first year in the program. The oral qualifying examination evaluates students' preparation in subjects that are considered to be an essential foundation for their continued doctoral study and research in the program. Any student failing the examination must repeat the examination prior to the start of the next fall semester. A second failed attempt will result in dismissal from the program. The oral qualifying exam will also serve as part of the student‘s annual academic review for the first year of study.

Written Candidacy Exams

Each student will take two exams on separate days. The first exam will be in research methods. The content of this exam will be uniform for each matriculating class of students. The second exam will be a special field in Security Studies, devised by the student in consultation with his or her Dissertation Advisory Committee. The special field may be geographic or thematic in focus, reflecting the research interests of the student. Both examinations will be used to determine the student's knowledge of theory, methods, and past and present research in their chosen areas. Students failing the comprehensive examination may retake the exam one time. If the exam is failed a second time, the student will be dismissed from the program.

A student must notify the Graduate Program Director in writing of their intent to take candidacy exams at least one month before the date fixed for examination. The exam must be successfully completed prior to enrollment in dissertation hours.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours
- Successful completion of the oral candidacy exam
- Successful completion of the written candidacy exams
- Formation of a dissertation advisory committee
- Submittal of an approved program of study

Equipment Fee

Full-time students in the Security Studies PhD pay $39 per semester for equipment each semester that they are enrolled. Part-time students pay $19.50 per semester.

INDEPENDENT LEARNING

As with all graduate programs, independent learning is an important component in the Security Studies doctoral program. Students will demonstrate independent learning through research seminars, directed research and the dissertation.

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- An earned master's degree or its equivalent in Political Science, International Politics or International Relations, or related discipline. The Graduate Program Director will evaluate the suitability and applicability of MA degrees in other disciplines for admission purposes.
- A competitive score on each of the quantitative and verbal sections of the Graduate Record Examination (GRE) taken within three years prior to admission to the program.
- Three letters of reference that evaluate the applicant's academic performance and their suitability and potential for undertaking doctoral study, at least one of which must be written by a faculty member at the institution where the master's degree was earned, preferably the thesis adviser for those applicants who wrote a master's thesis.
- A personal statement of 500 words identifying areas of research interest in political science, faculty with whom they would like to work, and describing the applicant’s academic and professional experiences and future career goals.

- A writing sample of the applicant's work that is at least 2500 words long and demonstrates ability to complete graduate-level research.
- Résumé.
- For international applicants whose first language is not English, a score of 90 or better on the TOEFL internet-based test (iBT); or a score of 232 or better on the TOEFL computer-based test; or a score of 575 or better on the TOEFL paper-based test; or a score of 7.0 or better on the IELTS.

Applicants should plan to take the appropriate test no later than December to ensure consideration of their applications by the January 1 deadline.

Applicants' records will be reviewed on an individual basis for academic deficiencies and evaluated to assess their potential for success in the program. Supplemental course work may be recommended. Consult the graduate program director whenever questions arise.

A department admissions committee that reviews the applicants' credentials will conduct interviews with the top candidates (either in-person on campus or by phone or Skype). Final selection is based on both submitted credentials and interview.

Meeting minimum UCF admissions criteria does not guarantee program admission. Final admission is also based on evaluation of the applicant's abilities, past performance, recommendations, match of this program to the applicant's career/academic goals, applicant's potential for completing the degree, and the interview.

Application Deadlines

Security Studies PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Jan 1		
International Applicants	Jan 1	Jan 1		
International Transfer Applicants	Jan 1	Jan 1		

CONTACT INFO

Michael Mousseau PhD
Associate Professor
Program Director
michael.mousseau@ucf.edu
407-823-2608
HPH 302M

Sociology PhD

PROGRAM DESCRIPTION

The Sociology PhD program is organized around a curriculum combining strong grounding in the acquisition of methodological skills with advanced study in one of the department's four areas of concentration: the Sociology of Crime/Deviance; Domestic Violence; Social Inequalities; and Health, Families, and Communities.

The program is one of only a few in the United States focusing on applied research. Students are trained in specific applied research skills such as data analysis and program evaluation. Combined with course work in one of the four substantive areas, graduates will be trained for employment in academic settings, industry, business, government, and nonprofit agencies. The program provides training in the skills necessary to secure research careers in academic and nonacademic professions and emphasizes applied research in community-based settings.

CURRICULUM

The Sociology PhD requires a minimum of 60 credit hours beyond the master's degree, with 15 credit hours coming from required core courses, three credit hours from a restricted elective in theory, and three credit hours from a restricted elective in research methods and data analysis. Students select a minimum of 12 elective credit hours in one of the department's four areas of concentration, Sociology of Crime/Deviant Behavior; Domestic Violence; Social Inequalities; or Health, Families and Communities.

Total Credit Hours Required:

60 Credit Hours Minimum beyond the Master's Degree

Students must earn a grade of "B" (3.0) or better in the program's required courses. Courses may be retaken to achieve a better grade; however, students must maintain a minimum GPA of 3.0 in their program of study.

Required Courses—21 Credit Hours

Core—15 Credit Hours

- SYA 7019 Advanced Sociological Theory (3 credit hours)
- SYA 7309 Advanced Sociological Research Methods (3 credit hours)
- SYA 7407 Advanced Data Analysis (3 credit hours)
- SYA 6657 Program Design and Evaluation (3 credit hours)
- SYA 7658 Social Policy and Research Analysis (3 credit hours)

Theory—3 Credit Hours

Select one course from the list below.

- SYA 6933 Topics in Sociological Theory (3 credit hours)
- SYA 6128 Theoretical Criminology (3 credit hours)

Research Methods—3 Credit Hours

Select one course from the list below.

- SYA 6315 Qualitative Research Methods (3 credit hours)
- SYA 6425 Design and Conduct of Social Surveys (3 credit hours)
- SYA 7457 Topics in Data Analysis (3 credit hours)
- SYA 6356 Geographic Information Systems in Society (3 credit hours)
- SYA 6452 Geographic Information Systems Applications (3 credit hours)

Elective Courses—24 Credit Hours

Major Area of Concentration Electives—12 Credit Hours Minimum

Students will select a minimum of 12 credit hours of unrestricted electives in one of the department's four areas of concentration.

- Sociology of Crime/Deviant Behavior
- Domestic Violence
- Social Inequalities
- Health, Families and Communities

Unrestricted Electives—12 Credit Hours Minimum

The unrestricted electives provide students with an opportunity to expand their doctoral training beyond the program's core courses and the electives in the student's major area of concentration. Unrestricted electives may include formal course work, graduate-level courses in programs outside the Sociology Department, independent study courses with a highly focused student/faculty research component, directed research, doctoral research and a research practicum, which enable students to gain valuable research experience in a nonacademic setting. At least 9 hours from concentration electives and unrestricted electives must consist of formal course work, exclusive of independent study. Unrestricted electives may be taken at any point in the student's program of study. The research practicum and courses from other departments must be approved by the student's adviser and the Graduate Director.

Dissertation—15 Credit Hours Minimum

- SYA 7980 Dissertation Research (15 credit hours)

Examinations

Qualifying Examinations

Full-time students would typically be expected to take the Qualifying Exam during their 2nd or 3rd year in the program (after having completed all required courses in theory, methods/statistics, and one of the four areas of concentration: Crime and Deviance; Domestic Violence; Social Inequalities; and Health, Families and Communities).

Content

Section 1: Theoretical Foundations of Sociology

All students will answer two of three questions. All students who take the exam in the same area of concentration in a given semester will receive the same three questions. One of the questions will require students to trace the connections between classical and contemporary sociological theories and a second question will require students to discuss the three central theoretical paradigms in sociology.

Section 2: Methods and Statistics

All students will answer two of three questions. All students who take the exam in the same area of concentration in a given semester will receive the same three questions. One of the questions will require students to interpret statistical results in tabular form.

Section 3: Major Area of Concentration

All students will answer three of four questions covering general information within the area of concentration. All students who take the exam in the same area of concentration in a given semester will receive the same four questions.

Committee

The Qualifying Exams will be graded by a committee of three faculty members who teach or do research in the area of concentration. Prior to the final faculty meeting of each spring semester, four separate qualifying exam committees will be formed by faculty choosing to become a member of one or more areas of concentration. Each qualifying exam committee will create the exam to be used for the next academic year and select the three members who will be the Grading Committee.

Administration

The Qualifying Exam will be offered to students twice during the academic year (once during the fall semester and once during the spring semester). Students must notify the Graduate Director by June 1 to take the exam in the fall semester or by October 1 to take the exam in the spring semester. They will select a major area of concentration. The exam will be distributed by the Graduate Director via email on the Monday of the week prior to the beginning of the fall semester and the Monday prior to the start of the spring semester. Students will have four days (96 hours) to complete all sections of the exam and return the exam to the Graduate Director via email. The Graduate Director will then distribute the exam to the appropriate grading committee.

Students are expected to work on the Qualifying Exam alone, and all exams will be submitted to turnitin.com.

Each grading committee will have three weeks to notify the Graduate Director of the student's grade on the exam (High Pass, Pass, Conditional Pass, or Fail). A grade of conditional pass on an exam will require the student to revise and resubmit one or more questions identified as insufficient by the Grading Committee. The student will have one week to complete each question that must be rewritten.

If a student fails the exam, he/she must retake the exam the next semester it is offered. If the exam is failed a second time, the student will be dismissed from the Ph.D. Program in Sociology.

Candidacy Examination

The dissertation proposal hearing constitutes the program's candidacy examination, and students who successfully pass their proposal hearing along with other requirements shall be admitted to candidacy. The proposal will encompass an overview of the dissertation topic that includes an in-depth review of relevant literature, a precise statement of the research question, and specific research design (planned methodology and analysis). The student's Dissertation Advisory Committee will supervise the preparation of the dissertation proposal and the proposal hearing.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- Successful defense of the dissertation proposal.
- The dissertation advisory committee is formed, consisting of approved graduate faculty and graduate faculty scholars.

- Submittal of an approved program of study.

Dissertation

A dissertation is required for completion of the PhD, along with an oral defense of the dissertation proposal and completed dissertation through a minimum of 15 credit hours, which students use to accomplish original research on a topic approved by their adviser and three committee members. One committee member must be from a relevant field outside the Department of Sociology. The dissertation must conform to standard disciplinary, institutional, and departmental practices. Students may not enroll for dissertation credit until they have completed all examinations in their program of study.

Applied Research Practicum (Optional)

An important component of the Sociology PhD program is the research practicum. The practicum is three to six credit hours of directed research experience in a nonacademic setting, which will provide a "hands-on" approach for advanced doctoral students. Although completion of a research practicum will not be required for all doctoral students, it is expected that some students, including most of those seeking employment in research positions in public and private agencies, will take advantage of this opportunity. Doctoral students must pass their qualifying examinations before being eligible for a research practicum. The student's graduate adviser and the department's Graduate Director must approve the research practicum. Hours completed in a research practicum will count as unrestricted electives in the student's program of study.

Equipment Fee

Full-time students in the Sociology PhD program pay a $39 equipment fee each semester that they are enrolled. Part-time students pay $19.50 per semester.

INDEPENDENT LEARNING

As with all graduate programs, independent learning is an important component in the Sociology doctoral program. Students will demonstrate independent learning through research seminars, directed research and the dissertation.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, a statement of research interest, purpose, and relevant work/research experience, résumé, and a writing sample.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Master's degree in a related field from an accredited institution (*Note: Official, preliminary transcript reflecting Master's degree in-progress may be submitted prior to first semester of enrollment. Final, official transcripts are required post admission to document completion of master's degree.*).
- Official, competitive GRE scores taken within the last five years.
- Three letters of recommendation, at least two from academic sources regarding the applicant's potential for success in the program.
- A 250-500 word personal statement identifying the area of research interest, faculty with whom they would like to work with and a description of the applicant's academic and professional experiences and goals.
- Résumé.

- A writing sample, at least 2,500 words and demonstrating the ability to complete advanced graduate work.

Applicants' records will be reviewed on an individual basis for academic deficiencies and evaluated to assess their potential for success in the program. Supplemental course work may be recommended. Consult the graduate program director whenever questions arise.

Meeting minimum UCF admissions criteria does not guarantee program admission. Final admission is also based on evaluation of the applicant's abilities, past performance, recommendations, match of this program to the applicant's career/academic goals, and applicant's potential for completing the degree.

Application Deadlines

Sociology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Jan 1		
International Applicants	Jan 1	Jan 1		
International Transfer Applicants	Jan 1	Jan 1		

CONTACT INFO

Jason Ford PhD
Associate Professor
Program Director
jason.ford@ucf.edu
407-823-2769
PH 403D

Texts and Technology PhD

PROGRAM DESCRIPTION

The interdisciplinary Texts & Technology (T&T) doctoral program at the University of Central Florida is about critiquing, inventing, and applying information practices in new media environments. The T&T program focuses on the synergy between digital technologies and textual studies, fostering new and socially important means of communication, learning, and doing. The T&T program considers literacy in a broad sense, from traditional notions of writing and communication to more contemporary notions of computational and procedural literacy (e.g., using programming and new media installations as inventive methods for production, critique, and analysis).

Since 2001, UCF's Texts and Technology doctoral program has excelled in supporting its students by offering a rigorous curriculum in a friendly environment. Students bring knowledge of a specific discipline and deepen their understanding of the subject through a digital lens. In the T&T program, students create new theories and digital practices. Texts and Technology trains students to adapt, develop, assess, and invent information practices in relation to emergent information technologies in and beyond the humanities.

Our graduates are able to create, navigate, and leverage digital environments with ease, while simultaneously contributing new knowledge to this growing field. This outstanding program prepares students for research, teaching, and program development. Areas of research and production include digital archiving and editing, philosophy and ethics, public history, curatorship, asset management, predictive modeling, information architecture, visualization, web design, usability, distributed learning, game design, writing and rhetoric, gender studies, and scientific and technical communication. Approximately 75 percent of our graduates move on to serve in academia and the remaining 25 percent are working in industry.

CURRICULUM

The Texts and Technology PhD program requires five core courses (15 credit hours), three courses in an Area of Specialization (9 credit hours), three Interdisciplinary elective courses (9 credit hours), two courses in the internship and teaching area (6 credit hours), 3 credit hours for candidacy examination, and at least 15 credit hours of dissertation work for a total of at least 57 semester hours of credit taken at UCF beyond the master's degree.

Total Credit Hours Required:

57 Credit Hours Minimum beyond the Master's Degree

Required Courses—15 Credit Hours

Core—12 Credit Hours

- ENG 6800 Introduction to Texts and Technology (3 credit hours)
- ENG 6810 Theories of Texts and Technology (3 credit hours)
- ENG 6801 Texts and Technology in History (3 credit hours)
- DIG 6836 Design and Development for Texts and Technology (3 credit hours)

Research Methods—3 Credit Hours

Select one course from the list below, or an alternate 6000-level methods course subject to approval by the instructor and the Texts and Technology Program Director.

- ENG 6812 Research Methods for Texts and Technology (3 credit hours)
- DIG 6825 Research Methods for Digital Media (3 credit hours)
- ENC 6720 Research Methods in Rhetoric and Composition (3 credit hours)
- HIS 6159 Historiography (3 credit hours)

Elective Courses—18 Credit Hours

Area of Specialization—9 Credit Hours

After 18 credit hours in the program, students are expected to select an Area of Specialization. Students are required to select 9 credit hours from an Area of Specialization as noted below, or other graduate courses in the discipline subject to approval by the instructor and the Texts and Technology Program Director. The list below shows examples of approved courses.

Digital Humanities

ENG 6812 Research Methods for Texts and Technology (3 credit hours) is the recommended Methods course.

- DIG 5137 Information Architecture (3 credit hours)
- DIG 6546 Previsualization and Concept Development (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)

- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 6426 Visual Texts and Technology (3 credit hours)
- ENC 6428 Rhetoric of Digital Literacy (3 credit hours)
- ENC 6939 Topics in Texts and Technology (may be repeated for credit) (3 credit hours)
- ENG 6806 Digital Editing and Databases (3 credit hours)
- ENG 6808 Narrative Information Visualization (3 credit hours)
- ENG 6811 Cultural Contexts in Texts and Technology (3 credit hours)
- ENG 6814 Gender in Texts and Technology (3 credit hours)
- ENG 6948 Teaching Practicum in Texts and Technology (3 credit hours)
- FIL 5800 Research Methods in Film and Digital Media (3 credit hours)
- PHI 5665 Knowledge, Responsibility and Society (3 credit hours)
- PHI 6679 Digital Ethics (3 credit hours)
- PHM 5035 Environmental Philosophy (3 credit hours)
- THE 5545 Theatre for Social Change (3 credit hours)
- TPP 5248C Storytelling as a Theatrical Art Form (3 credit hours)
- WST 5347 Research in Women and Gender Studies (3 credit hours)
- WST 5601 Theories in Gender Studies (3 credit hours)

Digital Media

DIG 6825 Digital Media Research Methods (3 credit hours) is the recommended Methods course.

- DIG 5137 Information Architecture (3 credit hours)
- DIG 5487 Principles of Visual Language (3 credit hours)
- DIG 6136 Design for New Media (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- DIG 6546 Previsualization and Concept Development (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- DIG 6647 Science and Technology of Digital Media (required) (3 credit hours)
- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 6296 Writing and Designing Online Help Systems (3 credit hours)
- ENC 6428 Rhetoric of Digital Literacy (3 credit hours)
- ENG 6808 Narrative Information Visualization (3 credit hours)
- PHI 6679 Digital Ethics (3 credit hours)

Public History

If the student does not hold a master's degree in History, HIS 6159 Historiography (3 credit hours) is the recommended Methods course. If the student holds a master's degree in history, the recommended Methods course is ENG 6812 Research Methods for Texts and Technology (3 credit hours).

- AMH 5378 History of Technology (3 credit hours)
- AMH 5636 Colloquium in U.S. Environmental History (3 credit hours)
- AMH 6346 Seminar in the History of American Automobility (3 credit hours)
- AMH 6429 Seminar in Community and Local History (3 credit hours)
- AMH 6592 Seminar in Oral History (3 credit hours)
- ENG 6808 Narrative Information Visualization (3 credit hours)
- HIS 5067 Introduction to Public History (3 credit hours)
- HIS 5083 Cultural Heritage Management (3 credit hours)
- HIS 5925 History in the Digital Age (3 credit hours)
- HIS 6068 Seminar in Documentary Editing and New Media (3 credit hours)
- HIS 6096 Seminar in Historic Preservation (3 credit hours)
- HIS 6165 Digital Tools for Historians (3 credit hours)
- HIS 6942 Public History Internship (3 credit hours)
- PHI 6679 Digital Ethics (3 credit hours)

Rhetoric and Composition

ENC 6720 Research Methods in Rhetoric and Composition (3 credit hours) is the recommended Methods course.

- ENC 5337 Rhetorical Theory (3 credit hours)
- ENC 5705 Theory and Practice in Composition (3 credit hours)
- ENC 6245 Teaching Professional Writing (3 credit hours)
- ENC 6332 Gendered Rhetoric (3 credit hours)
- ENC 6333 Contemporary Rhetoric and Composition Theory (3 credit hours)
- ENC 6335 Rhetorical Traditions (required) (3 credit hours)
- ENC 6338 The Rhetorics of Public Debate (3 credit hours)
- ENC 6339 Rhetorical Movements (3 credit hours)
- ENC 6428 Rhetoric of Digital Literacy (3 credit hours)
- ENC 6712 Studies in Literacy and Writing (3 credit hours)
- ENC 6740 Topics in Rhetoric and Composition (3 credit hours)
- ENC 6945 Community Literacy Practicum (3 credit hours)
- ENG 6808 Narrative Information Visualization (3 credit hours)
- ENG 6811 Cultural Contexts in Texts and Technology (3 credit hours)
- PHI 6679 Digital Ethics (3 credit hours)

Scientific and Technical Communication

ENG 6812 Research Methods for Texts and Technology (3 credit hours) is the recommended Methods course.

- ENC 6261 Technical Writing: Theory and Practice (required) (3 credit hours)
- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 6217 Technical Editing (3 credit hours)
- ENC 6292 Project Management for Technical Writers (3 credit hours)
- ENC 6297 Production and Publication Methods (3 credit hours)
- ENC 6296 Writing and Designing Online Help Systems (3 credit hours)
- ENC 6425 Hypertext Theory and Design (3 credit hours)
- ENG 6074 Historical Movements in Literary, Cultural and Textual Theory (3 credit hours)
- ENG 6078 Contemporary Movements in Literary, Cultural and Textual Theory (3 credit hours)
- ENG 6808 Narrative Information Visualization (3 credit hours)
- LIT 6435 Rhetoric of Science (3 credit hours)
- LIT 6936 Studies in Literary, Cultural and Textual Theory (3 credit hours)
- PHI 6679 Digital Ethics (3 credit hours)

Interdisciplinary Electives—9 Credit Hours

Students select 9 credit hours of interdisciplinary electives from any Area of Specialization, or from other departments within the university, subject to approval by the instructor and the Texts and Technology Program Director. This requirement encourages students to find graduate-level coursework best suited to develop their research agendas and to prepare for their dissertations.

Dissertation—18 Credit Hours

Candidacy Examination—3 Credit Hours

- ENC 7919 Doctoral Research (3 credit hours)

Students are admitted to doctoral candidacy status upon completion of a written examination with three parts—one part based on a reading list reviewed biennially by the Texts and Technology faculty and the other two parts based on reading lists prepared by each student and approved by the examination committee. The candidacy examination for each student is written and evaluated by a committee of three UCF graduate faculty chosen by the student; however, at least two members of each candidacy examination committee must be members of the Texts and Technology faculty. Students must be registered for ENC 7919 during the semester in which they take their candidacy examination and they must find a Texts and Technology core faculty member to serve as the chair of their examination during the semester before enrolling in ENC 7919. Students cannot register for dissertation credit ENC 7980 until the semester after they have successfully completed the candidacy examination. Students who fail the candidacy examination a second time cannot continue in the program.

Admission to Candidacy

The following are required to be admitted to candidacy and enroll in dissertation hours:

- Successful completion of all course work, except for dissertation hours.
- Successful completion of the candidacy examination.
- An approved dissertation advisory committee is on file, consisting of approved graduate faculty and graduate faculty scholars.
- A current, approved program of study is on file.

Dissertation and Oral Defense—15 Credit Hours

- ENC 7980 Doctoral Dissertation (15 credit hours)

Students choose their dissertation adviser and committee from among the faculty in the Texts and Technology PhD program, and must have one member from outside the College of Arts and Humanities. They choose the adviser and committee after they have completed approximately 27 credit hours toward the degree or after the first year-and-a-half of course work. All dissertation committee members, including outside readers, must hold a PhD or another relevant terminal degree.

Students must write a dissertation on their research that will explain and defend a significant original contribution to the field of Texts and Technology. It may be of a theoretical, historical or pragmatic nature, but must meet conventional academic standards. Students are required to submit and defend a written dissertation proposal during the first year in dissertation. The dissertation committee administers the candidate's oral defense of the dissertation, with passing determined by acceptance by a majority of the committee. The dissertation adviser, the dissertation committee and the dean of the college or designee must approve the final dissertation. Format approval is required from the Thesis and Dissertation Office and final approval of degree requirement completion by the College of Graduate Studies (Millican Hall 230).

Students will submit at least one substantial scholarly article to a national and/or international peer-reviewed journal with the approval and assistance of the dissertation chair and the director of the doctoral program.

Internship and Practicum—6 Credit Hours

- ENG 6813 Teaching Online in Texts and Technology (3 credit hours)
- ENG 6947 Internship in Texts and Technology (3 credit hours)

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a master's degree with a background in a related field from a regionally accredited school, three letters of recommendation, a research statement, a writing sample, an optional digital portfolio, and a résumé.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript from each college/university attended, demonstrating a competitive GPA in the student's major field of study.
- Applicants must hold a master's degree from a regionally accredited university. Fields with a technological and/or textual theory component, such as digital humanities, public history, technical communication, digital media, cultural studies, philosophy, rhetoric, or linguistics, are especially applicable.
- Official, competitive GRE score (the test must have been taken within the last five years).
- Three letters of recommendation, at least two regarding the applicant's potential for success in the Texts and Technology PhD program written by academic mentors.
- A combination Research Agenda and Statement of Purpose, in which the applicant outlines a potential course of study and explains why the Texts and Technology program PhD program is well suited to his/her area of interest and research. Competitive students will demonstrate a strong sense of how they will use their graduate study to accomplish their personal and professional goals, as well as provide an overview of their technological skills, knowledge, experience, and abilities. Applicants are encouraged to visit the Texts and Technology PhD website for additional information regarding the program and faculty (http://www.tandt.cah.ucf.edu).
- Substantial academic writing sample and an optional digital portfolio illustrating the applicant's ability to engage in advanced academic work. Acceptable writing samples may include a chapter from a master's thesis, a conference paper, a term paper for a seminar, or other research project that demonstrates the applicant's ability to pursue the type of research that could possibly lead to a completed dissertation.
- Résumé or CV.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is competitive and is based on a comparative evaluation of each applicant's proficiencies, past performance, recommendations, as well as the match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Texts and Technology PhD	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Patty Hurter
Program Staff
phurter@ucf.edu

407-823-2126
CAH 190E

SPECIALIST PROGRAMS

Education EdS

- Master's +30
- School Counseling

PROGRAM DESCRIPTION

The Specialist in Education program is designed for practicing educators who wish to gain expertise in a subfield within education, and offers two tracks: School Counseling Track and the Master's + 30 Track. The program builds that expertise from a core of courses curriculum, instruction, learning theory, and research, and then allow students to work with an adviser to develop a program of study to gain expertise. The program is intended for educators who are interested in teaching in a college, university, or community college, or leading curriculum and instructional improvement in a school or school district, higher education, or military or business settings.

The specialist program provides a foundation of advanced graduate course work but is not a "terminal" academic degree. The Education EdS is an advanced graduate program providing opportunities for master's graduates to enhance their professional preparation and/or preparation for the doctorate (either the EdD or the PhdD) by completing additional graduate coursework that results in an earned degree.

APPLICATION REQUIREMENTS

In addition to meeting general application requirements, applicants must provide a goal statement and a resumé. The Master's + 30 Track does not require a GRE for admission, however preference will be given to applicants who submit a competitive score; the School Counseling Track does require a GRE score earned within the last 5 years. The EdS in Education admits once per year during fall term only. No applications will be considered after July 15th.

NOTE: Students who wish to co-enroll for the EdD program must apply for admission to that program and comply with all admission criteria for that program, including an acceptable GRE score.

Applicants must choose a track (i.e., Masters + 30 or School Counseling) in this program. Tracks may have different requirements.

Admission to an education specialist program is separate from admission to the doctoral program. Upon completion of the EdS degree, the student may apply for admission to a doctoral program.

CONTACT INFO

Mike Hynes PhD
Professor
Chair
michael.hynes@ucf.edu
407-823-2005
ED 209D

Education EdS

Master's +30

TRACK DESCRIPTION

The program prepares educators who are interested in teaching in a college, university or community college, or in leading curriculum and instructional improvement in a school or school district, higher education, or military or business settings.

CURRICULUM

The Master's +30 track in the Education EdS program requires 30-33 credit hours beyond the master's degree, including advanced foundational core courses, specialization courses, and a capstone seminar. Students must also complete a portfolio.

Total Credit Hours Required:

30-33 Credit Hours Minimum beyond the Master's Degree

Required Courses—30-33 Credit Hours

Advanced Foundational Core—13-16 Credit Hours

- EDE 6933 Introductory Seminar* (1 credit hour) *For students with a specialization in Elementary Education or Reading Education*
- ESE 6935 Introductory Seminar* (1 credit hour) *For students with other specializations*
- EDP 7517 Facilitating Learning, Development and Motivation (3 credit hours)
- EDF 7457 Data, Assessment and Accountability (3 credit hours)
- EDA 7101 Organizational Theory in Education (3 credit hours)
- EDF 6635 Action Research and Inquiry in Teacher Leadership** (3 credit hours) or IDS 6971 Thesis (6 credit hours)

* Must be taken in the first semester of the program.

** Student completes either a Capstone Research Project or Thesis at the end of the program.

Capstone—2 Credit Hours

- EDE 6935 Capstone Seminar (2 credit hours) *For students with a specialization in Elementary Education or Reading Education*
- ESE 6936 Capstone Seminar (2 credit hours) *For students with other specializations*

Specialization—15 Credit Hours

For the specialization, students must complete 15 credit hours of specialization courses from one of the following UCF College of Education programs. Courses are selected with approval of the student's adviser.

- One of the tracks in the Teacher Leadership MEd program
- The specialization or electives in another MEd program
- The concentration in the Education EdD program
- One of the tracks in the Education PhD program

Portfolio

An electronic portfolio will document the reflections, learning experiences and projects that the student has engaged in throughout the program of study. Each course will have milestone assignments in the portfolio. Transitions in the program will be documented in the first semester during the Introductory Seminar (Professional Development Plan), at the completion of the core courses (Synthesis Paper), and with the presentation of the independent learning product and final Professional Development Plan during the Capstone Seminar.

INDEPENDENT LEARNING

The EdS requires a small-scale research study (if co-enrolled in a doctoral program) or completion of a capstone experience such as an internship, research report, or thesis (if this is a "terminal" program for the student).

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a related field of study.
- An official GRE score is not required for admission to the Education Ed. S., Master's + 30 Track. However, preference will be given to applicants who submit a competitive score. *Note that students who wish to co-enroll for the Ed.D. Program must apply to that program and comply with all admission criteria for that program including an acceptable GRE score*.
- A goal statement detailing the specific subfield of education in which the applicant intends for a specialization and explains how the degree will contribute to the applicant's career development plan. Applicants are strongly encouraged to contact faculty members in the College of Education and Human Performance in their area of specialization before they apply to identify a potential advisor.
- Resume
- All applicants **must** attend an interview session and an orientation to be accepted to the program. These will be held on dates announced on the College of Education and Human Performance website.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Master's +30	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	May 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Randall Hewitt PhD
Associate Professor
Program Director
randall.hewitt@ucf.edu
407-823-4949
ED 122-P

Education EdS

School Counseling

TRACK DESCRIPTION

As part of the program's pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling and Research Center and field-based experiences in the community. The UCF Community Counseling and Research Center serves as a hub for training and research in the program, with graduate students providing annual services to over 1,400 individuals, couples, and families in the central Florida community.

CURRICULUM

The School Counseling track in the Education EdS program prepares students for certification as a professional school counselor. The program requires a minimum of 48 credit hours beyond the master's degree, including 6 credit hours of core courses, 27 credit hours of specialization, 9 credit hours of DOE-required certification courses (if these have not been completed prior to entry), 9 credit hours of professional clinical experiences, and 6 credit hours of electives in either the nonthesis or thesis option.

Total Credit Hours Required:

48 Credit Hours Minimum beyond the Master's Degree

Required Courses—33 Credit Hours

Core—6 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Specialization—27 Credit Hours

- MHS 6220 Individual Psychoeducational Testing I (3 credit hours)
- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- MHS 6420 Foundations of Multicultural Counseling (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- SPS 6815 Legal and Ethical Issues in Professional School Counseling (3 credit hours)
- SDS 6347 Career Development (3 credit hours)
- SDS 6411 Counseling with Children and Adolescents (3 credit hours)
- SDS 6620 Coordination of Comprehensive Professional School Counseling Programs (3 credit hours)

Elective Courses/Nonthesis Option—6 Credit Hours

Students must select two electives in their specialization as approved by their adviser.

- Two approved electives (6 credit hours).

Professional Clinical Experiences—9 Credit Hours

The clinical experiences are comprised of two sections, Practicum and Internship. Both are experiential in nature and are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program to work with actual clients and students. The practicum is conducted on campus in the UCF Community Counseling and Research Center and the internship is conducted at various schools around central Florida.

- MHS 6803 Practicum in Counselor Education (3 credit hours)*
- SDS 6947 Internship in Professional School Counseling (3 credit hours)**
- SDS 6947 Internship in Professional School Counseling (3 credit hours)**

* Prerequisites for MHS 6803 Practicum in Counselor Education are as follows: MHS 5005, MHS 6400, MHS 6401, MHS 6500, and SPS 6815. MHS 6420 and SDS 6411 are also pre or co-requisites for MHS 6803. A minimum of 27 credit hours are required prior to beginning the practicum.

** The prerequisites for SDS 6947 Internship in Professional School Counseling include SPS 6815, a "B" or better in MHS 6803, and MHS 6420.

Additional Program Requirements

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- EdS students are strongly encouraged to take MHS 5005 during their first semester if not already taken in a Counselor Education master's program.
- Achieve a "B" or better in MHS 5005, MHS 6401, MHS 6803 and SDS 6947.
- Complete a total of 700 hours of clinical experiences, 100 of which will be in the UCF Community Counseling and Research Center and 600 of which are field-based experiences in a school setting.
- Complete a portfolio and receive approval by Counselor Education faculty.
- Complete a professional exit exam.
- DOE Certification – 9 credit hours (EdS students need to have a Master's in Education (Med) degree in order to waive the following education courses):
    - TSL 5085 Teaching Language to Minority Students in K-12 Classrooms (3 credit hours)
    - RED 5147 Developmental Reading (3 credit hours)
    - EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)

INDEPENDENT LEARNING

Practica and internships are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. The internship experience provides students with the practical experience of facilitating a comprehensive, professional school counseling program in a school setting (e.g., leading classroom guidance lessons, facilitating group counseling, providing individual counseling services).

APPLICATION REQUIREMENTS

In addition to meeting general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, a résumé, and a goal statement.

The School Counseling Track, EdS degree will no longer be accepting applications for summer enrollment. All interviews for candidates will be held with Counselor Education interviews in general, which occur every fall and spring. This change will allow for more consistency in all of the Counselor Education degree programs.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a related field of study.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation
- Resumé.
- Goal statement

The Specialist in Education-School Counseling track can accommodate only a limited number of students; therefore, there is a possibility of being denied admission even when all criteria are met.

The College of Education and Human Performance reserves the right to refuse student entrance or terminate a student after admission to the Specialist in Education-School Counseling track, if in the judgment of the faculty the student demonstrates unacceptable personal fitness to work in the counseling field with children, youth, and/or adults.

A formal interview is required and will be scheduled after the College of Education and Human Performance admission requirements are met. The interview dates for March and October will be posted on our Counselor Education website. Attendance at the program orientation session at 4:30 p.m. on the Thursday before classes begin, the semester to which the student applied, is mandatory.

Admission to an Education Specialist program is separate from admission to the Doctoral program. Upon completion of the EdS degree, the student may apply for admission to a Doctoral program.

Application Deadlines

School Counseling	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Feb 15		

CONTACT INFO

Stacy VanHorn PhD
Program Director
counsel@ucf.edu
407-823-2401
ED 322M

Educational Leadership EdS

PROGRAM DESCRIPTION

The program is an advanced professional degree designed specifically for individuals who have completed a master's degree in a field other than Educational Leadership and who wish to meet the requirements for Florida Level 1 Educational Leadership Certification while working toward a degree. Students who complete an EdS in Educational Leadership may apply for admission to the doctoral program. The EdS program requires a research report at the completion of studies.

CURRICULUM

The Educational Leadership EdS program requires a minimum of 36 credit hours beyond the master's degree. Students must complete EDA 6909 Research Report at the completion of their study, as well as successfully complete EDA 6946 Internship by earning at least a grade of "B."

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Master's Degree

Required Courses—30 Credit Hours

Core—9 Credit Hours

- EDA 7101 Organizational Theory in Education* (3 credit hours)
- EDA 6946 Internship (3 credit hours)
- EDA 6909 Research Report (3 credit hours)

*EDA 7101 will be taken the last fall semester of enrollment prior to graduation; enrollment requires instructor permission.

Specialization—21 Credit Hours

- EDA 6061 Organization and Administration of Schools (3 credit hours)
- EDA 6232 Legal Aspects of School Operation (3 credit hours)
- EDA 6240 Educational Financial Affairs (3 credit hours)
- EDA 6260 Educational Systems Planning and Management (3 credit hours)
- EDA 6931 Contemporary Issues in Educational Leadership (3 credit hours)
- EDS 6123 Educational Supervisory Practices I (3 credit hours)
- EDS 6130 Educational Supervisory Practices II (3 credit hours)

Co-requisite/Elective Courses—6 Credit Hours

EDF 6401 and EDF 6481 are required co-requisites if students have not already completed them in their master's degree. If the courses have been completed, students must take up to 6 credit hours of electives as approved by their adviser.

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

OR

- Electives (6 credit hours) as approved by adviser

Additional Program Requirements

Educational leadership majors must successfully complete:

- 3 credit hour EDA 6946 Administrative Internship (should be taken within the last two semesters of enrollment)

- Pass all sections of the Florida Educational Leadership Examination and receive scores in time for graduation.

INDEPENDENT LEARNING

Students must complete a research report at the conclusion of their studies.

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A master's degree in a related field of study.
- Official, competitive GRE score taken within the last five years.
- Resumé.
- Three letters of recommendation.

Admission to the EdS in Educational Leadership program is separate from admission to the doctoral program. EdS graduates may apply for admission to the doctoral program.

Application Deadlines

Educational Leadership EdS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 20	Sep 20	Feb 1
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Walter Doherty PhD
Assistant Professor
Program Director
wjdohert@ucf.edu
407-823-1153
ED 222F

School Psychology EdS

PROGRAM DESCRIPTION

The EdS in School Psychology is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

The School Psychology EdS program is designed to prepare students in becoming certified School Psychologists. This specialist degree has very specific requirements to meet the respective licensing requirements for school psychologists.

The School Psychology Program is a unique specialization in psychology and education. This program is based on two assumptions. School psychologists can apply relevant knowledge and skills from a variety of disciplines to the learning and adjustment problems of preschool and school-age children. Also, relevant knowledge and skills can be transmitted through a variety of services including (a) consultation with teachers and parents, (b) direct and indirect services to children and young adults, and (c) direct and indirect services to school and community organizations. School psychologists may practice in public or private schools, colleges and universities, rehabilitation centers, hospitals, mental health clinics, government agencies, child guidance centers, penal institutions, and may develop private practices. Applicants with backgrounds in education, psychology or other closely related undergraduate majors may qualify for the School Psychology degree program.

The program involves formal preparation and practical experiences focusing on psychological foundations (human development, learning and motivation), psychoeducational assessment, exceptional students, remediation or intervention techniques, counseling skills, as well as full-time supervised internship of two semesters in the public school setting. Graduates are certifiable at the state level and the program is approved and accredited by NASP/NCATE.

CURRICULUM

The School Psychology EdS degree requires a minimum of 83 credit hours beyond the bachelor's degree, as well as a portfolio, practicum and research report at the completion of study. Please note that 65 credit hours are completed before internship. The research report and internship courses comprise 18 credit hours that are completed during internship.

Total Credit Hours Required:

83 Credit Hours Minimum beyond the Bachelor's Degree

With the exception of SPS 5605 Building and Improving Relationship and Emotional Intelligence, SPS 5177 Enhancing Individual and Student IQ, and SPS 6700 Advanced Psychoeducation and Data-Based Decision Making, SPS courses are only open to students in the School Psychology Program.

Prerequisites or Co-requisites (DOE Certification)

- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours) or EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)

Required Courses—59 Credit Hours

Core—9 Credit Hours

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EEX 5051 Exceptional Children in the Schools (3 credit hours)

Specialization—50 Credit Hours

- SPS 6601 Introduction to Psychological Services in Schools (3 credit hours)
- SPS 6606 School Consultation Techniques (3 credit hours)
- SPS 6608 Seminar in School Psychology (3 credit hours)
- SPS 6801 Developmental Basis of Diverse Behaviors (3 credit hours)
- SPS 6225 Behavioral and Observational Analysis of Classroom Interactions in Schools (3 credit hours)
- SPS 6931 Ethical and Legal Issues in School Psychological Services (3 credit hours)
- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- SPS 6191 Individual Psychoeducational Diagnosis I (4 credit hours)
- SPS 6192 Individual Psychoeducational Diagnosis II (4 credit hours)
- SPS 6125 Infant Development Assessment (3 credit hours)
- SPS 6194 Assessment of Special Needs (3 credit hours)
- SPS 6206 Psychoeducational Interventions (3 credit hours)
- SPS 6700 Advanced Psychoeducation and Data-Based Decision Making (3 credit hours)

Choose two courses from the following list:

- SPS 6703 Child and Adolescent Deviant Behavior and Treatment (3 credit hours)
- SPS 6175 Cultural Diversity and Nonbiased Assessment (3 credit hours)
- SPS 5605 Building and Improving Relationship and Emotional Intelligence (3 credit hours)
- SPS 5177 Enhancing Individual and Student IQ (3 credit hours)

Research Report—6 Credit Hours

Choose one of the following two sets of courses.

- SPS 6909 Research Report I and II (6 credit hours) or
- SPS 6402 and SPS 6403 Applied Prevention and Intervention in Schools I and II (6 credit hours)

Practicum and Internship—18 Credit Hours

- SPS 6946 Practicum in School Psychology I (3 credit hours)
- SPS 6946 Practicum in School Psychology II (3 credit hours)
- SPS 6948 School Psychology Internship I and II (12 credit hours)

Additional Program Requirements

- Complete an electronic portfolio that documents reflections on study and learning experiences throughout the program and receive approval by the School Psychology faculty.
- Pass a comprehensive exam.
- Pass the Florida Teacher Certification Examination (FTCE).

UPDATE: In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted **on or after July 1, 2015**, may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT Subtest	GRE Subtest	Minimum GRE Score Requited to Substitute for GK Subtest
GK Writing Subtest (Essay)	GRE Analytical Writing	A combined score of 4 out of 6
GK English Language Subtest Skills	GRE Verbal Reasoning	A scaled score of 151
GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a **new** Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).

Equipment Fee

Students in the School Psychology EdS program pay a $90 equipment fee each semester that they are enrolled. A materials fee of $45 is charged for each of four assessment courses.

INDEPENDENT LEARNING

A practicum and research report are required as the culminating independent learning experience.

APPLICATION REQUIREMENTS

Before applying to the program, applicants must attend an information session with program faculty. In addition to meeting general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, have a baccalaureate degree in Education, Psychology, or related discipline, three letters of recommendation, resumé, goal statement, and receive favorable recommendation for admission by the School Psychology Review Committee.

Applicants will receive priority consideration for admission by attending an Information Session with program faculty. Call (407) 823-2401 for meeting dates or visit the program website at http://schpsy.education.ucf.edu/index.cfm.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A baccalaureate degree in Education, Psychology, or related discipline.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation (one from a faculty member).
- Resumé.
- A one-page goal statement.
- Receive a favorable recommendation for admission by the School Psychology Review Committee.

This program can only accommodate a limited number of students; therefore, there is a possibility of being denied admission even when all criteria are met. Admissions to this program will only occur in the fall term. Information concerning specific admissions policies and procedures can be obtained from the program website: http://schpsy.education.ucf.edu/index.cfm. All other questions will be answered during the Information Sessions prospective students are required to attend.

Application Deadlines

School Psychology EdS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Oliver Edwards PhD
Associate Professor
Program Director
oliver.edwards@ucf.edu
407-823-2401
Education 115G

MFA PROGRAMS

Creative Writing MFA

PROGRAM DESCRIPTION

The MFA program emphasizes the study of craft and published writing alongside the closely analyzed production of original work by students. Opportunities for professional development as writers, teachers, and editors abound. Our prolific, dedicated faculty members have won numerous prestigious awards for their work and have served as officers in the Associated Writing Programs (AWP) and other national organizations. The MFA program in Creative Writing offers workshop courses in fiction, literary nonfiction, and poetry, emphasizing the art and craft of literary writing and concentrating on the student's written work.

CURRICULUM

The minimum total hours required for the Creative Writing MFA is 36 credit hours, including a minimum of nine required credit hours of graduate writing workshop classes. Each candidate will write a book-length creative thesis. There is no nonthesis option in Creative Writing.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites and Co-requisites

Students are required to have a proficiency in American and British Literature as reflected by completing at least one survey course in each field. Students with baccalaureate degrees in subjects other than English whose transcripts do not clearly indicate successful completion of such courses will be required to complete survey courses in British and American literature as co-requisites before the thesis defense. The particular courses that satisfy these co-requisites are selected in consultation with the MFA program director.

Required Courses—15 Credit Hours

Core–9 Credit Hours

- CRW 6025 Graduate Writing Workshop. Must be repeated for credit. (3 credit hours)

While students are expected to concentrate their workshop study in the chief genre, multi-genre proficiency is encouraged. Additional credit hours beyond the required 9 credit hours in CRW 6025 Advanced Graduate Writing Workshop are recommended to assist the student in developing better writing and publication skills.

Specialization—6 Credit Hours

The student will complete two of the following courses:

- LIT 6039 Studies in Contemporary Poetry (3 credit hours)
- LIT 6097 Studies in Contemporary Fiction (3 credit hours)
- LIT 6076 Studies in Contemporary Nonfiction (3 credit hours)
- CRW 5130 Form and Theory in Creative Writing (3 credit hours)

Elective Courses—15 Credit Hours

Restricted Electives—6 Credit Hours

- CRW 6976 Scholarship and Publication (3 credit hours)
- CRW 6806C Teaching Creative Writing (3 credit hours). Required for teaching assistants who wish to be considered for teaching Creative Writing courses in our undergraduate program.
- CRW 5938 Special Topics Seminar (3 credit hours)
- CRW 5948C Creative Writing Service Learning (3 credit hours)
- CRW 6946 Internship (3 credit hours)
- CRW 6025 Graduate Writing Workshop (3 credit hours)

Unrestricted Electives—6 Credit Hours

- CRW 5130 Form and Theory in Creative Writing (3 credit hours)
- LIT 6216 Issues in Literary Study (3 credit hours)
- LIT 6936 Studies in Literary, Cultural, and Textual Theory (3 credit hours)
- ENC 5705 Theory and Practice in Composition (3 credit hours)
- LIT 6276 Teaching College Literature (3 credit hours)

Additional Electives—3 Credit Hours

Thesis—6 Credit Hours

- CRW 6971 Thesis (3 credit hours)

The candidate will complete a book-length manuscript of publishable quality, written and revised in CRW 6971 Thesis, that meets both departmental and university requirements for the thesis.

Practicum and Internship

Although a practicum or an internship is not required, they are encouraged to better prepare the student for their profession. These courses fulfill the 6-hour requirement in restricted electives and are listed in that category.

- CRW 6946 Internship
    - The Florida Review Internship (3 credit hours)
    - The Cypress Dome Internship (3 credit hours)
    - Other Approved Internship (3 credit hours)
- CRW 5948C Service Learning in Creative Writing (3 credit hours)

INDEPENDENT LEARNING

The creative thesis, a book-length manuscript of original creative work, is the independent learning experience.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must specify a genre of specialization (poetry, fiction, or literary nonfiction), and provide the following: one official transcript (in a sealed envelope) from each college/university attended; an official, competitive GRE score taken within the last five years; three letters of recommendation (preferably from teachers); a résumé or CV; a statement of background and goals; and a portfolio of work done in the primary genre.

Students are expected to have completed at least one survey course in both British and American Literature (which may be taken while in graduate residence).

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation (preferably from current or former teachers).
- Statement of background and goals. In the first sentence of your statement, please specify the primary genre of study (fiction, poetry, or literary nonfiction). If you were not an English major, we recommend you include a list (5-7 titles) of recently read contemporary books in the genre in which you are applying.
- Résumé or CV.
- A portfolio of fiction, poetry, or creative nonfiction. The portfolio must be in English and in the applicant's primary genre (up to 15 pages of poetry, 30 pages of fiction, or 30 pages of literary nonfiction). This manuscript is the most important element of a candidate's application. It will be evaluated by a committee of creative writing faculty to assess the candidate's readiness for graduate study. The committee's decision is based upon its qualitative assessment for the manuscript's competence in standard English and originality, and the author's demonstrated potential to succeed in the profession of creative writing.
- At least one survey course in both English and American literature at the university level (may be taken while in graduate residence).

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Creative Writing MFA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 5	Jan 5		
International Applicants	Jan 5	Jan 5		
International Transfer Applicants	Jan 5	Jan 5		

CONTACT INFO

Terry Thaxton
Program Director
terry.thaxton@ucf.edu
407-823-2112
CNH 411D

Emerging Media MFA

- Entrepreneurial Digital Cinema
- Studio Art and the Computer
- Digital Media
- Animation and Visual Effects

PROGRAM DESCRIPTION

The Animation and Visual Effects track is a specialized program designed to emulate the professional studio environment, providing each student with an opportunity to assume an artistic leadership role. The principal emphasis is placed on narrative film structure and the entrepreneurial aspect of animation as related to studio and job creation.

The Digital Media track is a specialized program designed to train degree candidates to learn and implement the conceptual, theoretical design and technical skills needed for twenty-first century storytelling. The principal emphasis of the program is on the creation of compelling content for new media for which production tools and processes are currently being invented. These students pursue a variety of goals addressing media convergence: including film, digital and dynamic media skills, extending these skills into new areas, or in the case of educations and media professionals, expanding their expertise and credentials for use in their professions.

The Entrepreneurial Digital Cinema track is designed for individuals who intend to work directly on the creation of new films and other media products and prepares graduates to teach in colleges and universities. This rigorous professional program is for visual artists and practitioners who demonstrate exceptional artistic and intellectual prowess, and evidence of significant professional promise. The MFA degree produces graduates with mastery of storytelling while allowing for individualized specialization.

The Studio Art and the Computer track provides students an opportunity to inform and enhance their artistic practice using twenty-first-century electronic media. The emphasis on electronic media is pliable enough to encompass the many ways in which technology intersects with contemporary art and design. Students in the program are invited to combine their backgrounds in traditional art- or computer-related disciplines within a conceptually driven, interdisciplinary environment. Courses provide exposure to time-based media, performance art, video art, sound works, kinetic sculpture, computer-based art, and art using the Internet in order to understand how these forms are driving twenty-first-century artistic practice and informing our understanding of contemporary cultural identities.

CURRICULUM

Total Credit Hours Required:

66 Credit Hours Minimum beyond the Bachelor's Degree

APPLICATION REQUIREMENTS

Applicants must choose a track within this program. Track(s) may have different application requirements. Applicants must choose a track within this program. Track(s) may have different application requirements.

CONTACT INFO

SVAD Advising
Program Staff
svadadvising@ucf.edu
Communications Building, NSC room 121

Emerging Media MFA

Entrepreneurial Digital Cinema

TRACK DESCRIPTION

In addition, to an education in the crafts of digital filmmaking (from initial research through postproduction and marketing), the program aims to train entrepreneurs and educators. Class work and independent research combine to educate students in the theory and practices employed by filmmakers in storytelling; how entrepreneurial filmmakers capitalize, manage and sell their work; and how a production team working on a digital motion picture achieves artistic goals.

CURRICULUM

The Emerging Media MFA track in Entrepreneurial Digital Cinema is a three-year cohort style program (six full-time semesters excluding summers) and students must progress through the program by taking required classes in particular semesters. The program requires a minimum of 66 credit hours, including 48 required credit hours, 6 elective credit hours, and 12 credit hours devoted to the thesis project. While students may make a thesis film outside the narrative feature film model (i.e., an experimental or documentary film), all MFA candidates are required to take the core and specialized courses that teach the customs and skills required of the narrative model. All thesis projects are self financed.

Total Credit Hours Required:

66 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—48 Credit Hours

- FIL 5406 Theories of Film Production (3 credit hours)
- FIL 5419 Developing the Film Screenplay (3 credit hours)
- FIL 5800 Research Methods in Film and Digital Media (3 credit hours)
- FIL 6146 Screenplay Refinement (3 credit hours)
- FIL 6454 Microbudget Production Design (3 credit hours)
- FIL 6596 Advanced Directing Workshop for Film and Digital Media (3 credit hours)
- FIL 6644 Microbudget Pre-Production (3 credit hours)
- FIL 6649 Microbudget Post-Production (3 credit hours)
- FIL 6619 Guerilla Marketing and Models Distribution (3 credit hours)
- FIL 6673 Arts and Media Entrepreneurship (3 credit hours)
- DIG 5487 Principles of Visual Language (3 credit hours)
- ART 5280 Serial Content (3 credit hours)
- ART 5941 Graduate Practicum (1 credit hour)

- ART 6683C Time Arts (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour to be taken 4 times)
- ART 6942 Graduate Practicum II (1 credit hour)
- ARH 5897 Advanced Seminar in Art History (3 credit hours)

Elective Courses—6 Credit Hours

Students select a minimum of 6 credit hours of coursework, internship, independent study or directed research from the School of Visual Arts and Design. Alternatively, students may select relevant graduate courses from other units with prior approval from the student's thesis chair.

Thesis—12 Credit Hours

- FIL 6971 Thesis (12 credit hours)

Before undertaking the thesis project, candidates must meet with the thesis advisory committee to submit and discuss the proposed project and obtain the committee's approval. The thesis requires intensive applied learning in order to complete a feature-length project and/or body of work. Additionally, the thesis project has a strong research component both in the initial development phase and in the creation of the distribution and marketing plan for the project. The final stage of the curriculum serves as a bridge to the professional world and supports the entrepreneurial philosophy of the program. The thesis project must be reviewed by the faculty adviser throughout the production process, and meet agreed upon criteria within a stated time frame. Once the thesis project is completed, candidates must have a screening or exhibition of the work, and meet with the thesis advisory committee for final approval and oral defense.

Course Schedule

The Emerging Media MFA is a full-time 3-year cohort program that requires students to abide by the following course sequence. Students must remain with their cohort in order to remain in good academic standing and graduate.

Year 1: Complete script and preproduction. Select thesis chair and committee members.

Fall—13 Credit Hours

- ARH 5897 Advanced Seminar in Art History (3 credit hours)
- DIG 5487 Principles of Visual Language (3 credit hours)
- ART 5941 Graduate Practicum I (1 credit hour)
- FIL 6673 Arts and Media Entrepreneurship (3 credit hours)
- FIL 5419 Developing the Film Screenplay (3 credit hours)

Spring—13 Credit Hours

- ART 5280 Serial Content (3 credit hours)
- ART 6942 Graduate Practicum II (1 credit hour)
- FIL 5800 Research Methods in Film and Digital Media (3 credit hours)
- FIL 6146 Screenplay Refinement (3 credit hours)
- FIL 5406 Theories of Film Production (3 credit hours)

Year 2: Select production methodology, crew, and cast. Schedule production.

Fall—13 Credit Hours

- ART 6683C Time Arts (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour)
- FIL 6454 Microbudget Production Design (3 credit hours)
- FIL 6619 Guerilla Marketing and Models of Distribution (3 credit hours)

- FIL 6644 Microbudget Pre-Production (3 credit hours)

Spring—9 Credit Hours

- ART 6930 Graduate Seminar (1 credit hour)
- FIL 6596 Advanced Directing Workshop (3 credit hours)
- FIL 6649 Microbudget Post-Production (3 credit hours)
- FIL 6971 Thesis (Pre-Production) (2 credit hours)

Year 3: Complete postproduction and enter the marketing/distribution phase.

Fall—9 Credit Hours

- ART 6930 Graduate Seminar (1 credit hour)
- FIL 6971 Thesis (Post-Production) (5 credit hours)
- ART, DIG or FIL Elective (3 credit hours)

Spring—9 Credit Hours

- ART 6930 Graduate Seminar (1 credit hour)
- FIL 6971 Thesis (Post-Production) (5 credit hours)
- ART, DIG or FIL Elective (3 credit hours)

Equipment Fee

Students in the Emerging Media MFA program pay a $90 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

A thesis is required. Students may also register for FIL 5944/6946 Internship for elective credit. Central Florida holds many internship opportunities and the program nurtures its relationship with film production companies.

APPLICATION REQUIREMENTS

In addition to general UCF application requirements, applicants must have a BA or BFA in film production, or a BA or BFA with significant, comparable film production experience; an official GRE score; an essay in response to a prompt; a short biography or résumé; an Academic Goal Statement; and a creative submission.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A BA or BFA in film production is preferred, however degrees in cinema studies, art, photography, journalism, communications, philosophy, literature and any of the liberal arts are acceptable if accompanied by a strong video portfolio.
- Academic Goal Statement: Applicants must provide an Artist's Statement that reflects the candidate's vision for their feature film or equivalent body of work as well as how this particular project will benefit from graduate-level study and faculty mentorship. The candidate should describe what he or she hopes to gain from attending graduate school, both creatively and academically.
- Essay: Respond to the following prompt in 750 words or less: Robert Bresson's *A Man Escaped*, Jean Luc Godard's *Alphaville*, and Jim Jarmusch's *Stranger Than Paradise* are examples of films that took advantage of production and financial limitations that led to particular and powerful aesthetic choices. Describe how the visual style and aesthetic quality of your proposed thesis film requires the limitations of the microbudget production process.
- Portfolio: All applicants must submit a creative portfolio that includes a link to a filmmaking reel that is no longer than 15 minutes in length. The film sample must include at least one complete short film that the applicant has participated in as a principle creative collaborator (i.e. as writer, director, producer, director of photography, and/or editor). Applicants must provide a document that includes the online link to the film sample, along with (1) the film's title;

(2) the applicant's role in the making of the film; and (3) the date the film was completed. All films must be submitted via YouTube, Vimeo, or similar link. When uploading the film sample, please title the submission with your full name, and select "unlisted" as your Privacy choice. Other materials in the portfolio can include, but are not limited to, additional screen writing samples, photography, documentation of work in other media, critical media analysis, and any other materials which reflect the candidate's experience with moving image scholarship and practice.

- Writing Sample: Applicants planning to make a narrative feature length film, should provide a treatment for a proposed feature film. along with a script sample of another work that he/she has written. The applicant does not have to be the author of the script that he/she plans to direct as the thesis film if accepted into the program—students may use a script that is in the public domain and direct his/her interpretation of it, or someone else may write a script that the student will direct. If the applicant proposes making a documentary feature or an experimental film as his/her MFA thesis project, in place of a script, a Film Treatment should be submitted. The Treatment should define the subject of the film and express the filmmaker's intentions regarding approach and style. The length of the treatment should reflect the scope of the project and should comprehensively address three parts:
    - Rationale/Thesis
      This section should address why this topic was selected and why this film should be made. The reasons can be personal, political, social, dramatic, poetic or scientific. This portion of the Treatment justifies the investment of time and energy in the project and it grounds the filmmaker in a context that supports intention, vision and commitment to the subject and the art. It can also be the place where a "challenge" or a question is stated – one the documentary will address or attempt to answer.
    - Content
      This section should include an outline detailing what the documentary is about and what will be explored and expressed. The filmmaker should address how the film will develop its story and why. This section describes the initial ideas of the filmmaker, recognizing that documentaries can change as the subject is explored. This section should include information about locations and interviews, specifically explaining how they will be integrated into the film as a whole.
    - Approach
      The filmmaker should express the style in which the film will be made and how this style will enhance and express the nature of the subject and the meanings the filmmaker intends to reveal.
- Résumé: Résumé, AND a 250-word biography, that details the applicant's creative and entrepreneurial accomplishments as they relate to professional and/or educational settings.
    - This must be uploaded directly to the online application.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Please submit all materials, with the exception of official transcripts, electronically as part of the online application. Applicants may be asked to participate in an admissions interview.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, the applicant's potential for completing the degree and the current applicant pool.

Application Deadlines

Entrepreneurial Digital Cinema	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Lisa Mills PhD
Associate Professor
Program Director
Lisa.Mills@ucf.edu
407-823-2758
NSC 261

Emerging Media MFA

Studio Art and the Computer

TRACK DESCRIPTION

This emphasis on electronic media is pliable enough to encompass the many ways in which technology intersects with contemporary art and design.

Students in the program are invited to combine their backgrounds in traditional art or computer-related disciplines within a conceptually driven, interdisciplinary environment. Courses provide exposure to time-based media, performance art, video art, sound works, kinetic sculpture, computer-based art, and art using the Internet in order to understand how these forms are driving 21st century artistic practice and informing our understanding of contemporary cultural identities.

CURRICULUM

The Studio Art and the Computer MFA track is composed of a minimum of 66 credit hours, to be acquired in three years (six full-time semesters excluding summers). Degree credit is obtained in theory courses, studio art courses, electives, and supervised research. All courses must be approved by the Graduate Program Director. The thesis consists of a body of artistic work accompanied by electronic (Internet) documentation and a culminating exhibition.

Total Credit Hours Required:

66 Credit Hours Minimum beyond the Bachelor's Degree

Graduate students must maintain a 3.0 or better GPA in all course work to complete the program. Continuation in the MFA program requires a positive annual evaluation by the Program Director of the School of Visual Arts and Design and by the Graduate Committee of the School of Visual Arts and Design.

Required Courses—51 Credit Hours

- ART 5280 Serial Content (3 credit hours)
- ART 5284 Design Theory and Methods (3 credit hours)
- ART 5696 Art, Design and Human Interactions (3 credit hours)
- ART 5698 Concourse I (3 credit hours)
- ARH 5897 Advanced Seminar in Art History (3 credit hours)
- ART 5910 Studio Concentration I (3 credit hours; should be taken twice for a total of 6 credit hours)
- ART 5941 Graduate Practicum I (1 credit hour)
- ART 6683C Time Arts (3 credit hours)
- ART 6687 Research Concentration I (3 credit hours)
- ART 6689 Research Concentration II (3 credit hours)
- ART 6699 Concourse II (3 credit hours)

- ART 6911 Studio Concentration II (3 credit hours; should be taken twice for a total of 6 credit hours)
- ART 6930 Graduate Seminar (1 credit hour; taken four times)
- ART 6942 Graduate Practicum II (1 credit hour)
- DIG 5487 Principles of Visual Language (3 credit hours)
- DIG 6136 Design for New Media (3 credit hours)

Elective Courses—9 Credit Hours

Students should choose from graduate level courses within the School of Visual Arts & Design that are not already required for their program. These courses included those with the following prefixes: ARH, ART, DIG and FIL. If approved by the Graduate Program Director, there are many graduate-level courses in the College of Arts and Humanities that can be used as electives in addition to other graduate courses. These courses must be selected so as to ensure that at least one-half of the courses in the student's plan of study are taken at the 6000 level. Normally, at least half of the selected electives should be taken within the School of Visual Arts and Design.

A listing of courses offered can be found in the drop-down Catalog Menu at the top of the page under "Courses."

- Electives (9 credit hours)

Thesis—6 Credit Hours

- ART 6971 Thesis (6 credit hours)

The thesis consists of a body of artistic work accompanied by electronic (Internet) documentation and a culminating exhibition. The final oral review before the supervisory thesis committee occurs at the end of the sixth semester. At the same time, the graduate student presents a thesis exhibition of selected works from the cumulative body of works produced during his/her three years of residency. In addition, the thesis requires an artist's statement and documentation. The thesis will contain research intentions, results, and the body of the creative works produced. Students are required to submit an electronic version of the thesis to the UCF College of Graduate Studies. After approval by the UCF College of Graduate Studies, the UCF Library will add it to its archives and make the electronic version of the thesis accessible on the web. The required thesis is the independent learning experience in the degree program.

Course Schedule

The Emerging Media MFA is a full-time 3-year cohort program that requires students to abide by the following course sequence. Students must remain with their cohort in order to remain in good academic standing and graduate.

YEAR 1

Fall—13 Credit Hours

- ARH 5897 Advanced Seminar in Art History (3 credit hours)
- ART 5284 Design Theory and Methods (3 credit hours)
- ART 5910 Studio Concentration I (3 credit hours)
- ART 5941 Graduate Practicum I (1 credit hour)
- DIG 5487 Principles of Visual Language (3 credit hours)

Spring—13 Credit Hours

- ART 5280 Serial Content (3 credit hours)
- ART 5910 Studio Concentration I (3 credit hours)

- ART 6942 Graduate Practicum II (1 credit hour)
- DIG 6136 Design for New Media (3 credit hours)
- ART, DIG or FIL Elective (3 credit hours)

YEAR 2

Fall—10 Credit Hours

- ART 5696 Art, Design and Human Interactions (3 credit hours)
- ART 6683C Time Arts (3 credit hours)
- ART 6911 Studio Concentration II (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour)

Spring—10 Credit Hours

- ART 6911 Studio Concentration II (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour)
- ART, DIG or FIL Elective (3 credit hours)
- ART, DIG or FIL Elective (3 credit hours)

YEAR 3

Fall—10 Credit Hours

- ART 5698 Concourse I (3 credit hours)
- ART 6687 Research Concentration I (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour)
- ART 6971 Thesis (3 credit hours)

Spring—10 Credit Hours

- ART 6689 Research Concentration II (3 credit hours)
- ART 6699 Concourse II (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour)
- ART 6971 Thesis (3 credit hours)

Equipment Fee

Students in the Emerging Media MFA program pay a $90 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

A thesis is required.

APPLICATION REQUIREMENTS

In addition to meeting general application requirements, applicants must provide: two letters of recommendation, letter of research intent, and a portfolio of 20 original creative works; students from countries where English is not the official language or students with degrees from non-U.S. accredited institutions must achieve a minimum 230 on the TOEFL.

Applicants to the MFA program normally must hold an earned BFA degree in Visual Art from a regionally accredited institution. Applicants who hold an earned BA, BS, or other baccalaureate degree in Visual Art or a related discipline from an accredited university may also apply.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A letter of research intent that is at least a page describing the applicant's creative background, proposed research interests, and the relationship between this program and the applicant's future goals. Research in the context of the MFA program primarily means the full-time creation of an original body of art work over the course of three years of residence.
- Two letters of recommendation preferably from former visual art professors.
- A computer-based score of 230 (or 89 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of

instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- Portfolio of original creative works
    - 20 jpeg images total (1000 pixels longest dimension – 72 dpi) or a 3-minute demo reel for animation portfolios. Please abide by these guidelines.
    - The total portfolio file size must no larger than 2.5 MB. If you are submitting a video file that is larger than 2.5 MB please upload the video to YouTube or Vimeo and provide the link in this section of the application. View YouTube uploading instructions here: http://www.google.com/support/youtube/bin/answer.py?hl=en&answer=57924. When uploading the video, please title the submission with your full name, and select "unlisted" as your Privacy choice.
    - Please upload a document with the link to your portfolio to the application. The link can be from You Tube, Vimeo, DropBox, Google Drive, etc. You may also upload your PDF portfolio directly to the application or submit it via email to svadadvising@ucf.edu.

Meeting minimum UCF admission criteria does not guarantee admission to the MFA program. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, the applicant's potential for completing the degree, and the current applicant pool. A strong emphasis is placed on the review of the portfolio of original creative work and the letter of research intent.

Application Deadlines

Studio Art and the Computer	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Jason Burrell
Program Director
jason.burrell@ucf.edu
407-823-0092
VAB 105-0

Emerging Media MFA

Digital Media

TRACK DESCRIPTION

The Digital Media Track in the Emerging Media MFA is a specialized program designed to train degree candidates to learn and implement the conceptual, design, and technical skills needed for twenty-first century storytelling. The principal emphasis of the program is on the creation of compelling content for new media for which production tools and processes are currently being invented. These students pursue a variety of goals addressing media convergence: including digital, and dynamic media skills, extending these skills into new areas, or in the case of educators and media professionals, expanding their expertise and credentials for use in their professions. Students may be admitted on either a full-time or part-time basis, through full-time participation is recommended.

This degree program builds on undergraduate knowledge to build a mature set of conceptual, design, and technical skills needed to communicate stories and messages in a single discipline or in an interdisciplinary environment. A twelve-hour thesis project is required. A typical thesis might involve designing content that is imparted through integrating traditional media with computer-based and computer-enhanced formats where the content is enriched by the use of novel interactive modalities and techniques. Work in the thesis will extend the capabilities of interfaces and measure the effectiveness of training and communicating.

This MFA track is embedded in a rich environment of digital media work at UCF and in the surrounding community. The following are active areas of work at UCF:

- Digital media in instructional applications
- Experience design
- Interactive performance
- Serious Games for Training and Education
- Information Architecture for the World Wide Web
- Social and collaborative media design
- Cultural heritage preservation using new media

The School of Visual Arts and Design faculty have extensive professional and academic experience in areas spanning film, video, multimedia, interactive and web design, human-centered interactive design, exhibition and theme park design, simulation and training, game development, broadcast design and motion graphics, animation, visual language, immersive design environments, database design, e-commerce, digital storytelling, and educational technology and community development.

Students desiring admission to the Digital Media track should have an undergraduate degree in a media-related creative or technical field such as art, film, animation, theater, music, digital media, computer science, English, or education in the arts. Students will be admitted on the basis of a portfolio review or compelling plan of action for the creation of new knowledge in a profession or field of study by the addition of Digital Media. Desirable background skills for this degree include computer and software literacy. Examples include mastery of Mac or PC workstations that are configured with a diverse range of hardware and software for multimedia production.

CURRICULUM

The Digital Media track in the Emerging Media MFA program is a full-time three-year cohort style program (six full-time semesters excluding summers) and students must progress through the program by taking required classes in particular semesters. The program requires a minimum of 66 credit hours including a thesis project. The program requires 48 credit hours of required courses, 6 credit hours of program electives, and 12 credit hours of thesis.

Total Credit Hours Required:

66 Credit Hours Minimum beyond the Bachelor’s Degree

During the first academic year, the student pursues required courses. Throughout the second year, the student finishes remaining required coursework and enrolls in electives approved by his or her thesis chairperson/adviser. During the third year, the student's focus is on completing his or her thesis work

Required Courses—48 Credit Hours

- DIG 5137 Information Architecture (3 credit hours)
- DIG 5487 Principles of Visual Language (3 credit hours)
- DIG 6136 Design for New Media (3 credit hours)
- DIG 6546 Previsualization and Concept Development (3 credit hours)
- DIG 6551 Applied Interactive Story (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- ARH 5897 Advanced Seminar in Art History (3 credit hours)
- ART 5280 Serial Content (3 credit hours)
- ART 5696 Art, Design and Human Interactions (3 credit hours)
- ART 5941 Graduate Practicum I (1 credit hour)
- ART 6683C Time Arts (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour, taken four times)
- ART 6942 Graduate Practicum II (1 credit hour)
- FIL 5800 Research Methods in Film and Digital Media (3 credit hours)
- FIL 6673 Arts and Media Entrepreneurship (3 credit hours)

Elective Courses—6 Credit Hours

Students should choose from graduate-level courses within the School of Visual Arts and Design that are not already required for their program. These courses include those with the following prefixes: ARH, ART, DIG and FIL. If approved by the Graduate Program Director, there are many graduate-level courses in the College of Arts and Humanities that can be used as electives in addition to other graduate courses. These courses must be selected so as to ensure that at least one-half of the courses in the student's plan of study are taken at the 6000 level. Normally, at least half of the selected electives should be taken within the School of Visual Arts and Design.

A listing of courses offered can be found in the drop-down Catalog Menu at the top of the page under "Courses."

Thesis—12 Credit Hours

- DIG 6971 Thesis (12 credit hours)

Each candidate for the Master of Fine Arts must submit a thesis proposal and preliminary bibliography on a topic selected in consultation with the adviser. The formal thesis is initiated by the preparation of a proposal that will meet both departmental and university requirements for the thesis. Prior to enrollment into thesis, the adviser, in consultation with the student, will designate a Thesis Committee to be further approved by the Dean of Arts and Humanities or their designee. This committee is chaired by the adviser and includes two or more additional faculty members from the School of Visual Arts and Design.

The members of the student's thesis committee will judge the proposal as the preliminary step to beginning the thesis. This committee must approve the Thesis Proposal before academic credit can accrue.

The thesis project for the Emerging Media MFA, Digital Media track involves creating innovative applications of digital media to serve artistic, entertainment, commercial, and/or educational needs. The thesis consists of three parts: (1) the creative project (that utilizes digital media); (2) the production journal (documenting the process of developing the project and evaluating its effectiveness); and (3) dissemination (the work is submitted in a juried exhibition, a refereed publication, or other venue that demonstrates development in connection with a professional partner).

The production journal portion of the thesis a formal written document. The introduction cites similar, related, and antecedent work; the body explains the purposes of the project, the method of its production, and any evaluation that was performed; and it concludes with plans for future work. The thesis will also include an archival copy of the resulting creative product. Both the thesis and the creative product must be delivered in a digital form, acceptable by the UCF library according to its standards for digital dissertations and theses.

Thesis Defense

In addition to the creative project, the written thesis, and dissemination of work, the final step in completing the thesis requirement is an oral defense before the thesis committee. Candidates present their creative or research work and explain its creation in an oral defense. These presentations are made to the student's committee, in a public meeting that other faculty and students may attend.

Course Schedule

The Emerging Media MFA is a full-time 3-year cohort program that requires students to abide by the following course sequence. Students must remain with their cohort in order to remain in good academic standing and graduate.

YEAR 1

Fall—13 Credit Hours

- ARH 5897 Advanced Seminar in Art History (3 credit hours)
- ART 5941 Graduate Practicum I (1 credit hour)
- DIG 5487 Principles of Visual Language (3 credit hours)

- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- FIL 6673 Arts and Media Entrepreneurship (3 credit hours)

Spring—13 Credit Hours

- ART 5280 Serial Content (3 credit hours)
- ART 6942 Graduate Practicum II (1 credit hour)
- DIG 5137 Information Architecture (3 credit hours)
- DIG 6136 Design for New Media (3 credit hours)
- FIL 5800 Research Methods in Film and Digital Media (3 credit hours)

YEAR 2

Fall—10 Credit Hours

- ART 5696 Art, Design and Human Interactions (3 credit hours)
- ART 6683C Time Arts (3 credit hours)
- ART 6930 Graduate Seminar (1 credit hour)
- DIG 6546 Previsualization and Concept Development (3 credit hours)

Spring—10 Credit Hours

- ART 6930 Graduate Seminar (1 credit hour)
- DIG 6551 Applied Interactive Story (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)

YEAR 3

Fall—10 Credit Hours

- ART 6930 Graduate Seminar (1 credit hour)
- DIG 6971 Thesis (6 credit hours)
- ART, DIG or FIL Elective (3 credit hours)

Spring—10 Credit Hours

- ART 6930 Graduate Seminar (1 credit hour)
- DIG 6971 Thesis (6 credit hours)
- ART, DIG or FIL Elective (3 credit hours)

Equipment Fee

Students in the Emerging Media MFA program pay a $90 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

A thesis is required.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, an essay regarding goals, short biography or résumé detailing the applicant's professional work, and a creative portfolio showcasing the applicant's

The graduate faculty determines final eligibility of applicants. In the case of restricted admission with deficiencies, the graduate committee decides the appropriate courses to be taken to compensate for the deficiencies. The letter of admission will specify the requirements that must be completed for regular admission.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) for each college/university attended.
- Three letters of recommendation from professors or employers who can address the applicant's ability to undertake graduate-level course work.
    - These must be submitted using the online letter of recommendation process that is part of the online application.
- A 500-word essay demonstrating the applicant's breadth of knowledge, insight, curiosity, vision, voice, and ability to think critically. The applicant should respond to ONE of the following:

    - Discuss the relationship between emerging technologies and creative expression.
    - Discuss the continuing conflict between art and commerce and how its energy might be made to serve the creative process.
    - Discuss the social, political, and cultural role and responsibilities of the artist/creator in a global society.
- Résumé or a 250-word biography detailing the applicant's creative and entrepreneurial accomplishments as they relate to a professional and/or educational setting.
- A personal vision statement identifying the research area you intend to pursue and a compelling vision of how you intend to utilize your acquired knowledge and skills after completing the degree.
- A creative portfolio submitted on a flash drive
    - The total portfolio file size must no larger than 2.5 MB. If you are submitting a video file that is larger than 2.5 MB please upload the video to YouTube or Vimeo and provide the link in this section of the application. View YouTube uploading instructions here: http://www.google.com/support/youtube/bin/answer.py?hl=en&answer=57924. When uploading the video, please title the submission with your full name, and select "unlisted" as your Privacy choice.
    - Please upload a document with the link to your portfolio to the application. The link can be from You Tube, Vimeo, DropBox, Google Drive, etc. You may also upload your PDF portfolio directly to the application or submit it via email to svadadvising@ucf.edu.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, the applicant's potential for completing the degree and the current applicant pool.

Application Deadlines

Digital Media	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Natalie Underberg-Goode PhD
Associate Professor
Program Director
natalie.underberg-goode@ucf.edu
407-823-1140
PO Box 163121

Emerging Media MFA

Animation and Visual Effects

TRACK DESCRIPTION

Students desiring admission to the Emerging Media MFA - Animation and Visual Effects track should be primarily interested in the opportunity to create or direct their own animation and visual effects. In this program students are encouraged to develop their visual storytelling skills while using a variety of animation and visual effects techniques, including traditional hand-drawn, stop motion, 2D computer, and 3D computer animation.

Applicants should have an undergraduate degree in animation, visual effects, emerging media, art, film, theater, computer science, graphic design, illustration, creative writing, mass communications, game design, or related field and must demonstrate, through a portfolio of work and writing, that they are currently proficient and successful in the area of Animation.

The Emerging Media MFA - Animation and Visual Effects track is a competitive program whereby students receive the best instruction from professors who have had extensive professional industry experience. Drawing on the expertise of the current faculty, graduates are well qualified to enter the teaching and academic professions. SVAD graduates have a competitive edge for greater opportunities within the animation, visual effects, and simulation industry.

Current SVAD alumni work in creating simulations for the U.S. Navy, NASA, DISTI, Lockheed Martin and other local and regional companies. In addition, SVAD alumni are currently working nationally and internationally for major animation and gaming companies such as Walt Disney Animation Studios, Reel EFX, Nickelodeon Animation Studios, Electronic Arts, Riot Games, and Blizzard Entertainment.

CURRICULUM

The Animation and Visual Effects track in the Emerging Media MFA program is a full-time three-year program (six full-time semesters excluding summers in most instances) and students must progress through the program by taking required classes in particular semesters. The program requires a minimum of 60 credit hours including a thesis project. All courses must be approved by the Graduate Program Director. The thesis consists of producing a short film and thesis document.

Total Credit Hours Required:

60 Credit Hours Minimum beyond the Bachelor's Degree

Graduate students must maintain a 3.0 or better GPA in all course work to complete the program.

Required Courses—48 Credit Hours

- DIG 5439C Script and Story Development for Animation and Visual Effects (3 credit hours)
- DIG 5865 The History of Animation and Visual Effects (3 credit hours)
- DIG 5386C Animation and Visual Effects Production I (3 credit hours)
- DIG 5366C Animation and Visual Effects Production II (3 credit hours)
- DIG 5387C Visual Development and Design for Animation and Visual Effects (3 credit hours)

- DIG 5378C Editing for Animation and Visual Effects I: Theory and Production (3 credit hours)
- DIG 5385C Visual Effects for Animation and Live Action I (3 credit hours)
- DIG 6379C Editing for Animation and Visual Effects II: Practical Editing (3 credit hours)
- DIG 6365C Media and Music for Animation and Visual Effects (3 credit hours)
- DIG 6388C Animation and Visual Effects Production III (3 credit hours)
- DIG 6384C Directing for Animation and Visual Effects (3 credit hours)
- DIG 6389C Animation and Visual Effects Production IV (3 credit hours)
- DIG 6377C Visual Effects for Animation and Live Action II (3 credit hours)
- DIG 6866C Technical Problem Solving for Animation and Visual Effects (3 credit hours)
- FIL 5800 Research Methods in Film and Digital Media (3 credit hours)
- FIL 6619 Guerilla Marketing and Models of Distribution (3 credit hours)

Thesis—12 Credit Hours

- DIG 6971 Thesis (12 credit hours)

The thesis consists of a short film production and thesis document.

The final oral review before the supervisory thesis committee occurs at the end of the sixth semester. At the same time, the graduate student presents a short film production. Students are required to submit an electronic version of the thesis to the UCF College of Graduate Studies. After approval by the UCF College of Graduate Studies, the UCF Library will add it to its archives and make the electronic version of the thesis accessible on the web. The required thesis is created during the independent learning experience in the degree program.

Course Schedule

The Emerging Media MFA -Animation and Visual Effects track is a full-time, three-year cohort program that requires students to abide by the following course sequence. Students must remain with their cohort in order to remain in good academic standing and graduate.

YEAR 1

Fall—12 Credit Hours

- DIG 5439C Script and Story Development for Animation and Visual Effects (3 credit hours)
- DIG 5865 The History of Animation and Visual Effects (3 credit hours)
- DIG 5386C Animation and Visual Effects Production I (3 credit hours)
- FIL 5800 Research Methods in Film and Digital Media (3 credit hours)

Spring—*12 Credit Hours*

- DIG 5366C Animation and Visual Effects Production II (3 credit hours)
- DIG 5387C Visual Development and Design for Animation and Visual Effects (3 credit hours)
- DIG 5378C Editing for Animation and Visual Effects I: Theory and Production (3 credit hours)
- DIG 5385C Visual Effects for Animation and Live Action I (3 credit hours)

YEAR 2

Fall—9 Credit Hours

- DIG 6379C Editing for Animation and Visual Effects II: Practical Editing (3 credit hours)
- DIG 6388C Animation and Visual Effects Production III (3 credit hours)
- DIG 6384C Directing for Animation and Visual Effects (3 credit hours)

Spring—9 Credit Hours

- DIG 6389C Animation and Visual Effects Production IV (3 credit hours)
- DIG 6377C Visual Effects for Animation and Live Action II (3 credit hours)
- DIG 6365C Media and Music for Animation and Visual Effects (3 credit hours)

YEAR 3

Fall—9 Credit Hours

- DIG 6866C Technical Problem Solving for Animation and Visual Effects (3 credit hours)
- DIG 6971 Thesis (6 credit hours)

Spring—9 Credit Hours

- FIL 6619 Guerilla Marketing and Models of Distribution (3 credit hours)
- DIG 6971 Thesis (6 credit hours)

Equipment Fee

Students in the Emerging Media MFA program pay a $90 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

A thesis is required.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Applicants to the MFA program normally must hold an earned bachelor's degree in one the areas below or equivalent and must have exhibited, through portfolio of work or writing that they are currently proficient and successful in the area of Animation.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) for each college/university attended.
- A bachelor's degree in one of the following areas or equivalent:
  - Animation
  - Art
  - Emerging Media
  - Film
  - Theatre
  - Computer Science
  - Graphic Design
  - Illustration
  - Creative Writing
  - Mass Communications
  - Game Design
- Statement of purpose: In your own words, submit a 500-to-700 word statement of why you are interested in the Emerging Media MFA -Animation and Visual Effects track and what your intended focus might be. Tell us a little about yourself and professional goals.
- Three letters of recommendation preferably from people who have a personal knowledge of your abilities and scholarship such as educators/faculty members, employment supervisors, organizational leaders or industry professionals with whom you have worked.
- Resume: Please submit a one to two page resume documenting your educational credentials, relevant professional and internship experience, academic achievements,honors, exhibits, publications, memberships, and interest including volunteer work.
- Original Animation/VFX Production Concept for a one to five-minute project:
  - A full storyboard
  - A full script treatment for that storyboard

    - Visual Development drawings of characters, setting, and production design reflecting research and technique
- Other Creative Work:
    - A portfolio of ten to twenty pieces of traditional or digital work.
    - For each item submitted, include the title, media, date of completion, and size or length of piece.
    - Some examples of work that could be submitted include:
        - 2D Design: Painting, drawing, photography, mixed media, fashion design, character design, illustrations, graphic designs, game or film visual development artwork.
        - 3D Design: Sculpture, theatrical design, architectural renderings or models, 3D computer models, and installation pieces.
        - Drawing from life: Human and animal drawings, quick sketches, long poses, and perspective drawing.
        - Time Arts work (less than 3 minutes of work): Animation pieces, flip books, and live action reel.
- Storytelling: Script or fictional narrative writing, sequential art illustration, comic book and graphic novel illustration and writing, book illustrations, and additional storyboards. A computer-based score of 230 (or 89 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Meeting minimum UCF admission criteria does not guarantee admission to the MFA program. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, the applicant's potential for completing the degree, and the current applicant pool. A strong emphasis is placed on the review of the portfolio of original creative work and the letter of research intent.

Application Deadlines

Animation and Visual Effects	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Cheryl Briggs MEd, MFA
Associate Professor
Program Director
cheryl.briggs@ucf.edu
407-235-3611
CEM301E

Theatre MFA

- Acting MFA
- Theatre for Young Audiences MFA

PROGRAM DESCRIPTION

The Theatre MFA program is currently not accepting applications for the Design, Musical Theatre, or Theatre for Young Audiences tracks. Please contact the program for more information.

The program is a highly selective, rigorous, three-year professional training program emphasizing both theatre theory and practice. The MFA degree is rooted in the belief that classroom study and practical experience in the theatre are of equal and complementary value. The production aspect, therefore, is integrated into the curriculum because it is the principal means available for the coordination of all the elements of dramatic art. We seek to pursue all possible ways to fuse production responsibilities with classroom work effectively for the purpose of teaching and training.

Students, in addition to becoming highly trained theatre practitioners, must also demonstrate the ability to understand the conceptual basis of their art and to be able to articulate that understanding to others. Toward this end, the department will recruit and develop graduate students who can serve, along with faculty and staff, as role models for undergraduate students whose BA and BFA programs of study are integrally connected and dependent.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

Julia Listengarten PhD
Professor
Program Director
julia.listengarten@ucf.edu
407-823-3858
PAC T220

Theatre MFA

Acting MFA

TRACK DESCRIPTION

The program is a highly selective, rigorous, three-year professional training program emphasizing both theatre theory and practice. The MFA degree is rooted in the belief that classroom study and practical experience in the theatre are of equal and complementary value. The production program, therefore, is integrated into the curriculum because it is the principal means available for the coordination of all the elements of dramatic art. We seek to pursue all possible ways to use the production program effectively for the purpose of teaching and training.

Students, in addition to becoming highly trained theatre practitioners, must also demonstrate the ability to understand the conceptual basis of their art and to be able to articulate that understanding to others. Toward this end, the department will recruit and develop graduate students who can serve, along with faculty and staff, as role models for undergraduate students whose BA and BFA programs of study are integrally connected and dependent.

CURRICULUM

The Acting track of the Theatre MFA program requires 47 credit hours of core and specialization courses that follow a suggested yearly schedule in addition to a thesis and an internship. The electives can be chosen (with instructor approval) from existing courses in the MFA tracks in Acting, Musical Theatre, Design, and Theatre for Young Audiences. Because allowed electives are both two- and three-credit-hour courses, the course of study shows a sliding number of credits for electives. Consequently, although the 61 credit hours are required, a student may graduate with as many as 65 credit hours.

Total Credit Hours Required:

61 Credit Hours Minimum beyond the Bachelor's Degree

Students must maintain a minimum “B” (3.0) overall Theatre grade point average to continue in the major. Theatre courses with grades of less than "C" will not be counted toward degree requirements. All Acting program students are required to audition for all fall and spring productions and must accept the roles assigned. A student’s continuation in the program is contingent upon a positive annual evaluation. Students must successfully complete internship and thesis requirements. The thesis proposal must be approved in advance.

Of the 61 hours required for the Acting track, the following courses constitute the MFA Graduate Core Curriculum. See the Course Schedule below for an understanding of how the curricular elements are articulated.

Required Courses—47 Credit Hours

Core—6 Credit Hours

- THE 5910 Research Methods in Theatre (3 credit hours)
- TPP 5087C Theatre Careers in Performance (3 credit hours)

Specialization—41 Credit Hours

Shown below is the suggested course schedule.

Elective Courses

- TPP 6808 Independent Study (1 credit hour)
- TPP 6686 Playwriting for Young Audiences (3 credit hours)
- TPP 5246C Circus Arts (2 credit hours)
- TPA 5885C Puppetry (2 credit hours)
- TPP 5125C Improvisation Studio (2 credit hours)
- TPP 5248C Storytelling as a Theatrical Art Form (2 credit hours)
- TPA 6406C Theatre Management (3 credit hours)

Thesis—6 Credits

- THE 6971 Thesis (6 credit hours)

Internship—8 Credit Hours Minimum

- THE 6948 Professional Internship

Course Schedule

YEAR 1

Fall—11 Credit Hours

- TPP 5156C Acting Studio I (3 credit hours)
- TPP 5515 Movement Studio I (2 credit hours)
- TPP 5715C Stage Voice I (2 credit hours)
- THE 5910 Research Methods in Theatre (3 credit hours)
- TPP 5278C Musical Theatre Lab (1 credit hour)

Spring—10 Credit Hours

- TPP 5157C Acting Studio II (3 credit hours)
- TPP 5516C Movement Studio II (2 credit hours)
- TPP 5716C Stage Voice II (2 credit hours)
- THE 5307 Contemporary Theatre Practice (3 credit hours)

YEAR 2

Fall—10 Credit Hours

- TPP 6146C Acting Studio III (3 credit hours)
- TPP 6517 Movement Studio III (2 credit hours)
- TPP 6717C Stage Voice III (2 credit hours)
- THE 6507 Dramatic Theory and Criticism (3 credit hours)

Spring—12 Credit Hours

- TPP 5087C Theatre Careers in Performance (3 credit hours)
- TPP 6518C Movement Studio IV (2 credit hours)
- TPP 6718C Stage Voice IV (2 credit hours)
- TPP 6267 Acting Studio IV: TV/Film (2 credit hours)
- THE 5205 American Theatre (3 credit hours)

YEAR 3

Fall—9 Credit Hours

- THE 6948 Professional Internship (4 credit hours)
- THE 6971 Thesis (3 credit hours)
- TPP 6186C Advanced Scene Study or Elective (2 credit hours)

Spring—9 Credit Hours

- THE 6948 Professional Internship (4 credit hours)
- THE 6971 Thesis (3 credit hours)
- TPP 6933 Acting Studio V (2 credit hours)

Students who do not hold a master's degree can usually transfer up to nine semester hours into this program. Ordinarily, students holding completed MS or MA degrees will not be admitted into the MFA program. Each case will be evaluated on an individual basis. Final acceptance and number of credits to be transferred will be determined by a graduate faculty committee. A minimum of 51 credits must be taken at the University of Central Florida. A student without an earned master's degree must complete a residency requirement of at least five semesters with at least four of them being full-time, consecutive semesters. Summer session may be counted toward the four consecutive semesters.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A 3.0 Theatre GPA.
- Essay stating applicant's academic and professional goals.
- Résumé.
- An 8 X 10 headshot.
- Three letters of recommendation.
- An audition.
- Interview.
- Complete the general entrance and area specific undergraduate prerequisites or their equivalents.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Auditions, Portfolio, and Interview Requirements:

- **MFA Acting** applicants are required to participate in an interview and perform two contrasting monologues.

For more details about these requirements, contact the Theatre Department at www.theatre.cah.ucf.edu.

General Entrance and Area Specific Prerequisites -Students applying for entrance into the MFA Programs must have successfully completed the following undergraduate courses or their equivalent:

- **Acting -**Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, Stage Voice I, Stage Voice II, Stage Movement I, Stage Movement II, Acting I, Acting II, Acting III.
- **Musical Theatre -**Fundamentals of Music, Acting I, Acting II, Musical Theatre Voice I, Musical Theatre Voice II are all recommended.
- **Design -**Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, Stagecraft I, Stagecraft II, Theatre Drafting, 2D CADD, Scene Design I, Lighting Design I, Costume Construction, Costume Design I.
- **Theatre for Young Audiences -**Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, as well as experience in some area of theatre and/or education.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

No part-time students will be admitted into the MFA program.

Application Deadlines

Acting MFA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Katherine Ingram MFA
Associate Professor
Program Director
Katherine.Ingram@ucf.edu
407-823-4872
PAC T216

Theatre MFA

Theatre for Young Audiences MFA

TRACK DESCRIPTION

The program is a highly selective, rigorous, three-year professional training program emphasizing both theatre theory and practice. The MFA degree is rooted in the belief that classroom study and practical experience in the theatre are of equal and complementary value. The production program, therefore, is integrated into the curriculum because it is the principal means available for the coordination of all the elements of dramatic art. We seek to pursue all possible ways to use the production program effectively for the purpose of teaching and training.

Students, in addition to becoming highly trained theatre practitioners, must also demonstrate the ability to understand the conceptual basis of their art and to be able to articulate that understanding to others. Toward this end, the department will recruit and develop graduate students who can serve, along with faculty and staff, as role models for undergraduate students whose BFA programs of study are integrally connected and dependent.

CURRICULUM

The Theatre for Young Audiences track of the Theatre MFA program requires 6 credit hours of core courses and 26 credit hours of specialization courses to be completed following a yearly schedule in addition to a thesis and an internship. The electives can be chosen (with instructor approval) from existing courses in the MFA tracks in Acting and Theatre for Young Audiences. Because allowed electives are both two- and three-credit-hour courses, the course of study shows a sliding number of credits for electives. Consequently, although 61 credit hours are required, a student may graduate with as many as 65 credit hours. Students earning the degree are expected to demonstrate proficiency in their area of specialization.

Total Credit Hours Required:

61 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—32 Credit Hours

Core—6 Credit Hours

- THE 5910 Research Methods in Theatre (3 credit hours)
- THE 6086C Careers in Professional Theatre (3 credit hours)

Specialization—26 Credit Hours

- THE 6756 Methods of Teaching Drama (3 credit hours)
- THE 5385 Dramatic Literature for Children (3 credit hours)
- TPA 5081C Design Concepts for Youth Theatre (3 credit hours)
- TPP 5386C Directing for Young Audiences (3 credit hours)
- THE 6726 Advanced TYA Seminar (3 credit hours)
- TPP 5289C Acting Methodologies (2 credit hours)
- THE 6507 Dramatic Theory and Criticism (3 credit hours)
- TPP 6216C Theatre for Young Audiences Tour (3 credit hours)
- TPP 6247 Theatre for Social Change (3 credit hours)

Elective Courses—11 Credit Hours

- TPP 6686 Playwriting for Young Audiences (3 credit hours)
- TPP 5246C Circus Arts (2 credit hours)
- TPA 5885C Puppetry (2 credit hours)
- TPP 5125C Improvisation Studio (2 credit hours)
- TPP 5248C Storytelling as a Theatrical Art Form (2 credit hours)
- TPA 6406C Theatre Management (3 credit hours)
- TPP 5935C Contemporary Practices in Youth Theatre (2 credits)

Thesis—6 Credit Hours

- THE 6971 Thesis (6 credit hours)

Internship—6-12 Credit Hours

- THE 6948 Professional Internship (6-12 credit hours)

The internship must be a minimum of 6 credits with the option of taking up to 12 credits. If students decide to only take the minimum 6 internship credits, the remaining 6 credits must be taken in the electives area.

Students must maintain a minimum “B” (3.0) overall Theatre grade point average to continue in the major. Theatre courses with grades of less than "C" will not be counted toward degree requirements. A student’s continuation in the program is contingent upon a positive annual evaluation. Students must successfully complete an internship, present a written journal documenting their experience and a thesis project. The thesis proposal must be approved in advance.

Examination

A comprehensive departmental Theatre exam is administered to the MFA students in the Theatre for Young Audiences Track at the end of their course work. The department allows two attempts at a comprehensive exam.

Transfer and Residency

Students who do not hold a master's degree can usually transfer up to nine semester hours into this program. Ordinarily, students holding completed MS or MA degrees will not be admitted into the MFA program. Each case will be evaluated on an individual basis. Final acceptance and number of credits to be transferred will be determined by a graduate faculty committee. A minimum of 51 credits must be taken at the University of Central Florida. A student without an earned master's degree must complete a residency requirement of at least five semesters with at least four of them being full-time, consecutive semesters. Summer session may be counted toward the four consecutive semesters.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis.

APPLICATION REQUIREMENTS

In addition to meeting general application requirements, applicants must submit an official, competitive GRE score taken within the last five years, previous degree in Theatre or equivalent, goal statement, résumé, an 8 X 10 headshot, three letters of recommendation, audition, and interview.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Undergraduate degree in Theatre or equivalent.
- A 3.0 Theatre GPA.
- Official, competitive GRE score taken within the last five years.
- Essay stating applicant's academic and professional goals.
- Résumé.
- An 8 X 10 headshot.
- Three letters of recommendation.
- An audition.
- Interview.
- Complete the general entrance and area specific undergraduate prequisites or their equivalents.

Auditions, Portfolio, and Interview Requirements:

- **MFA Theatre for Young Audiences** applicants are required to participate in an onsite interview and students must either audition (perform two contrasting monologues, not to exceed three minutes total) or give a creative presentation.

For more details about these requirements, contact the Theatre Department at www.theatre.cah.ucf.edu.

General Entrance and Area Specific Prerequisites—Students applying for entrance into the MFA Programs must have successfully completed the following undergraduate courses or their equivalent:

- **Acting**—Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, Stage Voice I, Stage Voice II, Stage Movement I, Stage Movement II, Acting I, Acting II, Acting III.
- **Musical Theatre**—Fundamentals of Music, Acting I, Acting II, Musical Theatre Voice I, Musical Theatre Voice II are all recommended.
- **Design**—Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, Stagecraft I, Stagecraft II, Theatre Drafting, 2D CADD, Scene Design I, Lighting Design I, Costume Construction, Costume Design I.
- **Theatre for Young Audiences**—Script Analysis or Play Analysis, Directing I, Theatre History I and II, Dramatic Literature I and II, as well as experience in some area of theatre and/or education.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

No part-time students will be admitted into the MFA program.

Application Deadlines

Theatre for Young Audiences MFA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Julia Listengarten PhD
Professor
Program Director
julia.listengarten@ucf.edu
407-823-3858
PAC T220

MASTERS PROGRAMS

Accounting MSA

PROGRAM DESCRIPTION

The Master of Science in Accounting (MSA) degree program prepares individuals for careers as professional accountants and consultants in public accounting, financial institutions, government, industry, and nonprofit organizations.

The MSA degree, along with the appropriate prerequisite work from an undergraduate degree in accounting, satisfies the education requirements to become a licensed CPA in the state of Florida.

CURRICULUM

The Master of Science in Accounting (MSA) degree is awarded upon satisfactory completion of a minimum of 30 credit hours, and a final written exit exam. In the total program of study a minimum of 21 credit hours of the course work must be completed in accounting/tax courses. Students, with the assistance and approval of the program adviser, may select other courses that reflect their interests and
career objectives.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Faculty members in the Kenneth G. Dixon School of Accounting empha'ize independent learning in various ways in all courses in the MSA program. Cases and research projects that involve independent work outside the classroom are incorporated into all course work. The cases and projects are both individual and team prepared. Students are asked to do research that requires they utilize library, internet and resources other than the material provided by the professor. The results of independent research activity are presented in either a written report or case analysis or oral presentation. Students work to develop and enhance skills and competencies that will support them professionally throughout their careers. The approaches used in our courses encourage students toward life-long learning.

Foundation Prerequisite Courses

The courses included in the business and accounting foundation core are listed below. An applicant with a recent undergraduate accounting degree should satisfy most of the core foundation requirements. Other recent related business coursework may partially satisfy these core requirements. The business foundation core is designed for students with a nonbusiness undergraduate degree (e.g., psychology, education, or engineering). The accounting foundation core is designed for students with an undergraduate business degree (e.g., finance, marketing, or management). All business and accounting foundation core deficiencies must be satisfied before graduate MSA coursework can be taken. Before taking any foundation courses, please have your undergraduate transcripts reviewed by the MSA Program Adviser.

Business Foundation Core—21 Credit Hours

- ACG 2021 Financial Accounting (3 credit hours)
- ACG 2071 Managerial Accounting (3 credit hours)
- ECO 2013 Macroeconomics (3 credit hours)
- ECO 2023 Microeconomics (3 credit hours)
- ECO 3401 Quantitative Business Tools I (3 credit hours)
- ECO 3411 Quantitative Business Tools II (3 credit hours)
- FIN 3403 Business Finance (3 credit hours)

Accounting Foundation Core—24 Credit Hours

- ACG 3131 Intermediate Financial Accounting I (3 credit hours)
- ACG 3141 Intermediate Financial Accounting II (3 credit hours)
- ACG 3361 Cost Accounting I (3 credit hours)
- ACG 4401 Accounting Information Systems (3 credit hours)
- ACG 4651 Auditing (3 credit hours)
- ACG 4803 Advanced Issues in Financial Accounting (3 credit hours)
- BUL 3130 Legal and Ethical Environment of Business (3 credit hours)
- TAX 4001 Taxation of Business Entities and Transactions (3 credit hours)

Required Courses—15 Credit Hours

- ACG 6636 Advanced Auditing (3 credit hours)
- ACG 6415 Advanced Accounting Information Systems (3 credit hours)
- ACG 6805 Accounting Theory (3 credit hours)
- ACG 6305 Advanced Managerial Accounting (3 credit hours)
- TAX 5015 Advanced Tax Topics (3 credit hours)

Elective Courses—15 Credit Hours

Restricted Accounting Elective Courses—6 Credit Hours

- ACG 6255 International and Multinational Accounting (3 credit hours)
- ACG 6519 Governmental and Nonprofit Accounting (3 credit hours)
- ACG 6675 Operational Auditing (3 credit hours)
- ACG 6685 Fraud Auditing (3 credit hours)
- ACG 6835 Ethics and Professionalism in Accounting and Auditing (3 credit hours)
- ACG 6946 Graduate Accounting Internship (3 credit hours)

Restricted Elective Courses—9 Credit Hours

MSA students can take additional ACG courses or TAX courses as restricted electives. Most MBA courses or electives other than ACG 6425 and BUL 6444 may be taken as restricted electives.. BUL 5332 Advanced Business Law Topics is required for UCF students with an undergraduate degree in accounting who plan to take the CPA exam. Please note that some of the MBA courses may be restricted to only those students enrolled within a specific MBA track. Up to six hours may be selected from outside the College of Business Administration. Courses outside the College of Business Administration must be selected with the student's area of interest and/or career objectives in mind and with the approval of the program adviser.

Comprehensive Examination

Satisfactory completion of an end-of-program comprehensive written examination is required. The MSA program does not require a thesis.

Additional Program Requirements

Students must maintain a 3.0 GPA in the accounting foundation core. Students must earn a grade of "B-" or higher in any undergraduate course taken after completion of the Bachelor's degree in order for that course to count as a prerequisite in or to fulfill an admissions requirements for the MSA degree.

5000-level courses taken in the undergraduate career that are used to earn the undergraduate accounting degree cannot be transferred into the MSA degree program.

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GMAT score taken within the last five years, and a résumé; applicants from countries where English is not the official language or applicants with degrees from non-U.S. accredited institutions must achieve a minimum score of 233 on the TOEFL; applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- 3.0 GPA in upper-division accounting and tax courses.
- Official, competitive GMAT score taken within the last five years.
- Résumé.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Accounting MSA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Charles Kelliher PhD
Associate Professor
Program Director
charles.kelliher@ucf.edu
407-823-5128
BA 1 - 324

Aerospace Engineering MSAE

- Accelerated BS to MSAE
- Space Systems Design and Engineering
- Thermofluid Aerodynamic Systems Design and Engineering

PROGRAM DESCRIPTION

The Master of Science in Aerospace Engineering (MSAE) is designed to prepare students for careers as engineers in aerospace.

Students may choose from three tracks: Accelerated BS to MSAE, Space Systems Design and Engineering, and Thermofluid Aerodynamic Systems Design and Engineering.

CURRICULUM

The MSAE is awarded upon completion of a minimum of 30 credit hours. Students of the program must select a thesis or nonthesis option. All students are expected to identify an adviser and file an official degree program of study prior to the completion of nine semester hours of study. At least one-half of the required credits must be taken at the 6000 level. Students should consult the Graduate Director for assistance.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

The program offers three tracks: Space Systems Design and Engineering, Thermofluid Aerodynamic Systems Design and Engineering, and Accelerated BS to MSAE. Students must be pursuing a track within the discipline. The MSAE is awarded upon completion of a minimum of 30 credit hours, which includes 12 credit hours of required courses, 6 credit hours of specialization, 6-9 credit hours of electives and depending on whether a student selects a thesis or nonthesis option. Thesis option students will be required a minimum of 6 credit hours and nonthesis students will be required to take the course EML 6085 Research Methods in MAE or EML 6918 Directed Research and make a presentation on a chosen topic before a committee of faculty members.

All students are expected to identify an adviser and file an official degree program of study prior to the completion of nine semester hours of study. At least one-half of the required credits must be taken at the 6000 level. Students should consult the Graduate Director for assistance.

For the Accelerated track, the BSAE is awarded after completion of 71 hours of engineering courses and all other university requirements, and the MSAE is awarded upon completion of the master's program. Courses designated in General Education Program and Common Program Prerequisites are usually completed in the first 60 hours (see engineering major requirements in the Undergraduate Catalog).

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program. Substitutions to the program of study must meet with the approval of the adviser and the department. More information is available at the department website listed above.

Thesis Option

The thesis option requires 30 credit hours, at least half of which must be at the 6000 level and will include 6 credit hours of thesis credit. A student pursuing the thesis program may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website and on the Events Calendar of the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option

The nonthesis option is primarily designed to meet the needs of part-time students and requires 30 credit hours of course work, at least one-half of which must be at the 6000 level. In addition, students pursuing the nonthesis option are required to take EML 6085 Research Methods in MAE as part of their 30-credit-hour course requirement. For students who are not on campus and upon prior approval from the graduate coordinator, EAS 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EAS 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

MAE Department Graduate Seminar Requirement

The MAE Graduate seminar is a zero credit hour course (S/U) that is offered each Fall and Spring academic semesters. All MAE graduate students who are pursuing the MSME are required to register, participate, and receive a satisfactory (S) grade for two semesters of MAE Graduate seminar prior to graduation.

Equipment Fee

Students in the Aerospace Engineering MSAE program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis for the thesis option. The non-thesis option independent learning experience is provided by the required course, EML 6085 Research Methods in MAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, EAS 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EAS 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to meeting general application requirements, applicants must provide a bachelor's degree in Aerospace Engineering or a closely related discipline, a résumé, and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's degree in Aerospace Engineering or closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Aerospace Engineering MSAE

Accelerated BS to MSAE

TRACK DESCRIPTION

The Accelerated BS to MS track in the Aerospace Engineering MSAE program allows highly qualified undergraduate students in Aerospace Engineering to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate degree program. Participation will enable completion of the Bachelor of Science and Master of Science degrees in five instead of six years for students enrolled in full-time course work.

CURRICULUM

The BSAE is awarded after completion of 128 total undergraduate student credit hours including 71 hours of engineering courses and all other university requirements, and the MSAE is awarded upon completion of the master's program. Courses designated in General Education Program and Common Program Prerequisites are usually completed in the first 60 hours (see engineering major requirements in the Undergraduate Catalog).

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Up to 12 credit hours of approved 5000- and 6000-level courses of grades "B" (3.0) or better may be counted toward the BS and MS degrees. Additional notes on the Accelerated Undergraduate and Graduate Program in Aerospace Engineering:

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a "B" (3.0) in each undergraduate and graduate engineering course for them to be counted toward the major.

Undergraduate Requirements

Please see the current edition of the Undergraduate Catalog and the College of Engineering website listed above for additional information about academics and accelerated programs.

Graduate Requirements

For thesis option students, at least 18 credit hours beyond the 12 credit hours counted toward the undergraduate degree are required and must include 6 credit hours of thesis (EAS 6971); for the nonthesis option, the 18 credit hours need to include either EML 6085 Research Methods in MMAE (3 credit hours) or EML 6918 Directed Research (3 credit hours). The remaining credit hours can be selected from courses from other tracks. Accelerated Aerospace students must declare their interest in either the Space Systems Design and Engineering Track or the Thermofluid Aerodynamic Systems Design and Engineering Track by completing a Program of Study with their adviser.

Additionally, all students pursuing the thesis option must enroll in the following course:

- EML 5936 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

Equipment Fee

Students in the Aerospace Engineering MSAE program pay a $90 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis or EML 6085 Research Methods in MMAE. The nonthesis option independent learning experience is provided by the required course EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, EAS 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EAS 6918 is approved, a letter must be provided by the member of the faculty superivising the directed research certifying independent learning.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to the general application requirements, applicants must provide a bachelor’s degree in Aerospace Engineering or a closely related discipline, a résumé, and a statement of educational, research, and professional career objectives.

The **Accelerated BS to MS program** in Aerospace Engineering allows highly qualified University of Central Florida undergraduate majors in Aerospace Engineering to begin taking graduate level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the accelerated program in either their junior year or senior year directly through the College of Engineering and Computer Science. If accepted, student's will complete the University Graduate application when they are ready to enroll as a full-time graduate student. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to either the **Space Systems Design and Engineering** or **Thermofluid Aerodynamic Systems Design and Engineering Track** instead. Additional information about this track may be located at: http://www.cecs.ucf.edu/current-students/bs-ms-program/.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's degree in Aerospace Engineering or closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

Application Deadlines

Accelerated BS to MSAE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Aerospace Engineering MSAE

Space Systems Design and Engineering

TRACK DESCRIPTION

The Master of Science in Space Systems Design and Engineering (MSAE) is designed to prepare students for careers as engineers in aerospace. The program includes the fields of controls and dynamics, space environment, instrumentation and communications, structures and materials, thermal analysis, and design.

CURRICULUM

The MSAE is awarded upon completion of a minimum of 30 credit hours, including 12 credit hours of required courses, 12 credit hours of elective courses selected from an approved list of courses, and an additional 6 credit hours in either a thesis or nonthesis option.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

All students must identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. The program of study must be approved by the department and therefore students should consult with the MMAE Graduate Director for assistance in filling out their program of study.

A student with an undergraduate degree outside of the selected departmental discipline may also be required to satisfy an articulation program. Substitutions to the program of study must meet with the approval of the adviser and the department.

Prerequisites (or equivalent)

- MAP 2302 Differential Equations
- EML 3034C Modeling Methods in Mechanical and Aerospace Engineering
- EAS 4134 High-Speed Aerodynamics
- EAS 4105 Flight Mechanics or EAS 4400 Spacecraft Attitude Dynamics
- EAS 4200 Flight Structures or EAS 4210 Space Structural Dynamics

Required Courses—12 Credit Hours

- EML 5060 Mathematical Methods (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EML 5311 System Control (3 credit hours)

Select one of the following courses:

- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)

Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must complete at least 12 credit hours of electives. The following list are suggested electives to be taken in the program of study.

- EAS 6403C Attitude Determination and Control (3 credit hours)
- EAS 6415 Guidance, Navigation and Control (3 credit hours)
- EEL 6616 Adaptive Control (3 credit hours)
- EEL 6621 Nonlinear Control Systems (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6211 Continuum Mechanics (3 credit hours)
- EML 6233 Fundamentals of Fatigue Analysis (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 6155 Convection Heat Transfer (3 credit hours)
- EML 6157 Radiation Heat Transfer (3 credit hours)
- EAS 6808 Space Environment and Payload Instrumentation (3 credit hours)
- EEL 5432 Satellite Remote Sensing (3 credit hours)
- EEE 5542 Random Processes I (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)

Thesis Option—6 Credit Hours

The thesis option requires 30 credit hours, at least half of which must be at the 6000 level and will include 6 credit hours of thesis credit. A student pursuing the thesis program may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

- EAS 6971 Thesis (6 credit hours)

Additionally, students pursuing the thesis option must enroll in the following course:

- EML 5090 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

Nonthesis Option—6 Credit Hours

The nonthesis option is primarily designed to meet the needs of part-time students and requires 30 credit hours of course work, at least one-half of which must be at the 6000 level. Students pursuing the nonthesis option are required to take one additional elective and take either EML 6085 Research Methods in MMAE (or XXX 6918 Directed Research, with approval)* as part of their 30-credit-hour course requirement.

- Elective (3 credit hours)
- EML 6085 Research Methods in MMAE (3 credit hours)

*For students who are not on campus and upon prior approval from the graduate coordinator, XXX 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of XXX 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

EML 6085 and XXX 6918 fulfill the independent learning requirement and either course is required for nonthesis students.

Equipment Fee

Students in the Aerospace Engineering MSAE program pay a $90 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

The independent learning requirement is met by successful completion of a master's thesis for the thesis option. The nonthesis option independent learning experience is provided by the required course, EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, XXX 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of XXX 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to meeting general application requirements, applicants must provide a bachelor's degree in Aerospace Engineering or a closely related discipline, a résumé, and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's degree in Aerospace Engineering or closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

Application Deadlines

Space Systems Design and Engineering	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Aerospace Engineering MSAE

Thermofluid Aerodynamic Systems Design and Engineering

TRACK DESCRIPTION

The Thermofluid Aerodynamics Systems Design and Engineering track in the Aerospace Engineering MSAE program is designed to prepare students for careers as engineers in aerospace. The program includes the fields of controls and dynamics, aerodynamics, propulsion, thermal analysis, and design.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The MSAE is awarded upon completion of a minimum of 30 credit hours, including 12 credit hours of required courses, 12 credit hours of elective courses selected from an approved list of courses, and an additional 6 credit hours in either a thesis or nonthesis option.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

All students must identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. The program of study must be approved by the department and therefore students should consult with the MMAE Graduate Director for assistance in filling out their program of study. Both thesis and nonthesis options require 30 credit hours of courses and at least half of the credit hours in the program of study must be at the 6000 level.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program. Substitutions to the program of study must meet with the approval of the adviser and the department.

Prerequisites (or equivalent)

- MAP 2302 Differential Equations
- EML 3034C Modeling Methods in Mechanical and Aerospace Engineering
- EAS 4134 High-Speed Aerodynamics
- EAS 4300 Aerothermodynamics of Propulsion Systems or EML 4703 Fluid Mechanics II
- EAS 4105 Flight Mechanics
- EML 4142 Heat Transfer

Required Courses—12 Credit Hours

- EML 5060 Mathematical Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)

Select one of the following courses:

- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EML 5311 System Control (3 credit hours)

Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must complete at least 12 hours of electives from the list below after conferring with their adviser.

- EAS 5123 Intermediate Aerodynamics (3 credit hours)
- EAS 6185 Turbulent Flow (3 credit hours)
- EAS 5315 Rocket Propulsion (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6131 Combustion Phenomena (3 credit hours)
- EML 6712 Mechanics of Viscous Flow (3 credit hours)
- EML 5402 Turbomachinery (3 credit hours)
- EML 5105 Gas Kinetics and Statistical Thermodynamics (3 credit hours)
- EML 6155 Convection Heat Transfer (3 credit hours)
- EML 6725 Computational Fluid Dynamics and Heat Transfer I (3 credit hours)
- EAS 5302 Direct Energy Conversion (3 credit hours)
- EAS 6807C Aerospace Measurements Instrumentation (3 credit hours)
- EML 6124 Two-Phase Flow (3 credit hours)
- EML 6726 Computational Fluid Dynamics and Heat Transfer II (3 credit hours)
- EML 6154 Conduction Heat Transfer (3 credit hours)

- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6157 Radiation Heat Transfer (3 credit hours)
- EAS 5123 Intermediate Aerodynamics (3 credit hours)
- EML 6211 Continuum Mechanics (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5532C Computer-Aided Design for Manufacture (3 credit hours)
- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EML 6547 Engineering Fracture Mechanics in Design (3 credit hours)

Thesis Option—6 Credit Hours

The thesis option requires 6 credit hours of thesis in addition to the required and elective courses listed above. A student pursuing the thesis program may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

- EAS 6971 Thesis (6 credit hours)

Additionally, all students pursuing the thesis option must enroll in the following course:

- EML 5090 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

Nonthesis Option—6 Credit Hours

The nonthesis option is primarily designed to meet the needs of part-time students and requires one additional elective and EML 6085 Research Methods in MMAE (or XXX 6918 Directed Research, with approval)* as part of their 30-credit-hour course requirement.

- Elective (3 credit hours)
- EML 6085 Research Methods in MMAE (3 credit hours)

* For students who are not on campus and upon prior approval from the graduate coordinator, XXX 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of XXX 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research.

EML 6085 (or XXX 6918) fulfills the independent learning requirement for nonthesis students.

Equipment Fee

Students in the Aerospace Engineering MSAE program pay a $90 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

The independent learning requirement is met by successful completion of a master's thesis for the thesis option. The nonthesis option independent learning experience is provided by the required course EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, XXX 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of XXX 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to meeting general application requirements, applicants must provide a bachelor's degree in Aerospace Engineering or a closely related discipline, a résumé, and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Bachelor's degree in Aerospace Engineering or closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

Application Deadlines

Thermofluid Aerodynamic Systems Design and Engineering	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Anthropology MA

PROGRAM DESCRIPTION

Degree-seeking students in the Anthropology MA program may elect to follow either a thesis or non-thesis plan of study. Each plan of study requires a minimum of 30 credit hours, 15 of which must be at the 6000-level. The thesis option is designed for students who plan to enter doctoral programs, while the non-thesis option is more appropriate for students entering or continuing profession careers following the MA degree. Students that focus on archaeology and want to become a Registered Professional Archaeologist should pursue the thesis option.

Students must receive a commitment from a graduate faculty advisor for admission into the program. The anthropology faculty conduct research in many geographical areas including Bolivia, Caribbean, Colombia, Egypt, Europe, Guatemala, Mexico, Peru, Philippines, Turkey and the United States. The department also has multiple research facilities on the Orlando campus that including the following: an archaeology lab specializing in lithic and ceramic analysis, a physical anthropology lab specializing in craniofacial 3D imaging, a forensic anthropology lab, a paleoethnobotany archaeology lab, a bioarchaeological sciences lab, and an interdisciplinary geospatial science lab. Students may have the opportunity to conduct research projects in the various countries or research facilities as part of their program.

CURRICULUM

Degree-seeking students in the Anthropology MA program may elect to follow either a thesis or a nonthesis program of study.

The thesis option is designed for students who plan to enter doctoral programs, while the nonthesis option is more appropriate for students entering or continuing professional careers following the MA degree. Both options require 30 hours of course work, of which half must be at the 6000 level.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

The MA degree is conferred when students have fulfilled the requirements of either the thesis or nonthesis option. No graduate credit will be given for any grade lower than a B- (2.75), but the grade will be counted toward the GPA. Courses may be retaken to achieve a better grade; however, the unsatisfactory grade will remain on the transcript since there is no grade forgiveness at the graduate level. In order to stay in good academic standing, students must maintain a minimum Graduate Status GPA of 3.0 in all coursework taken since entering graduate status and a 3.0 in their program of study.

Upon acceptance into the program students will be assigned a faculty adviser. Together the students and their advisers will determine the student’s preliminary program of study, either in the thesis or nonthesis option. Students should maintain close contact with their faculty adviser in order to develop a viable program of study and avoid graduation delays.

Research studies are required in the required courses, and at the conclusion of all course work, an assessment of students independent research projects and papers is completed. The research study will focus on reviewing and analyzing contemporary research in a particular specialization within anthropology in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area.

Required Courses—12 Credit Hours

These courses provide an in-depth understanding of the epistemological foundations of the discipline. Students are introduced to the theory and practice of anthropology at a level of synthesis that will prepare them for future doctoral study should they wish to pursue it. These courses also establish the foundations of understanding that will prepare students for nonacademic careers that employ anthropological perspectives and knowledge.

- ANG 6110 Archaeological Theory and Method (3 credit hours)
- ANG 6587 Seminar in Biological Anthropology (3 credit hours)
- ANG 6930 Seminar in Cultural Anthropology (3 credit hours)
- ANG 6002 Proseminar in Anthropology (3 credit hours)

Elective Courses—12 Credit Hours

A minimum of 12 additional credit hours must be selected from the list below in conjunction with the faculty advisor and/or the advisory committee members and approved by the program graduate coordinator. With prior approval, the student may take one elective (3 credit hours) in another department. Additional electives may be selected as they become available.

Under special circumstances, students may enroll in a graduate-level Directed Independent Study course or a Directed Independent Research course to fulfill their non-required elective course requirements. These courses, like most graduate seminars, require written research reports. Enrollment in these courses requires written approval from the student's adviser. No more than 6 hours of graduate-level courses in Directed Independent Study or Directed Independent Research may be included in a student's program of study.

- ANG 5166 Problems in Maya Studies (3 credit hours)
- ANG 5167 Maya Hieroglyphs (3 credit hours)
- ANG 5228 Maya Iconography (3 credit hours)
- ANG 5486 Quantitative Research in Anthropology
- ANG 5742 Problems in Forensic Anthropology (3 credit hours)
- ANG 5525C Human Osteology (4 credit hours)
- ANG 6520C Advanced Human Osteology (3 credit hours)
- ANG 6740C Advanced Forensic Anthropology (3 credit hours)
- ANG 5822 Field Research in Maya Studies (3 credit hours)
- ANG 5272 Culture, Power, and Development (3 credit hours)
- ANG 5307 Peoples and Cultures of Latin America (3 credit hours)
- ANG 5341 Caribbean Cultures (3 credit hours)
- ANG 5301 Anthropology of Tourism (3 credit hours)
- ANG 5531 Nutritional Anthropology (3 credit hours)
- ANG 5620 Language and Culture (3 credit hours)
- ANG 5622 Language, Culture, and Pedagogy (3 credit hours)
- ANG 5738 Advanced Medical Anthropology (3 credit hours)
- ANG 6168 The Ancient Maya (3 credit hours)
- ANG 6821 Forensic Archaeology Field Methods (3 credit hours)

- ANG 6181C GIS Applications in Anthropology (3 credit hours)
- ANG 6324 Contemporary Maya (3 credit hours)
- ANG 6701 Seminar in Applied Anthropology (3 credit hours)
- ANG 6801 Ethnographic Research Methods (3 credit hours)

Thesis Option—6 Credit Hours

The thesis and oral defense are the culmination of the course work for those students who have elected the thesis option. Students electing to write a thesis must select a Thesis Advisory Committee. The student's faculty adviser will chair the Thesis Advisory Committee. The committee will consist of three members. All members must be approved graduate faculty as cited in the most current UCF Graduate Catalog. Qualified individuals from outside the Department and also the University of Central Florida may be eligible to serve as the third member of Thesis Advisory Committees. The committee needs to be established prior to enrolling in thesis hours.

Students may enroll in thesis hours after they have successfully completed the four required courses. When a topic has been selected, students, in conjunction with their faculty adviser, will develop a thesis proposal. Copies of the proposal will be routed to members of their thesis committee and a proposal hearing scheduled. All students must pass a proposal hearing as well as a final oral defense of their thesis. Students who elect to write a thesis should become familiar with the university's requirements and deadlines for organizing and submitting the thesis. The thesis option is highly recommended for students interested in graduate work beyond the Master of Arts degree.

The completion of the thesis must be followed by an oral defense before the Thesis Advisory Committee. A successful format review, oral defense, and electronic submission of the thesis to the College of Graduate Studies for review completes the program requirements. Students are required to follow all procedures and timetables specified by the College of Graduate Studies.

- ANG 6971 Thesis (6 credit hours)
- Successful Oral Defense of Thesis

Nonthesis Option—6 Credit Hours

Students selecting the nonthesis option take an additional 6 hours of elective course work for a total of 18 credit hours of electives.

- Electives (6 credit hours)

Comprehensive Examination

At the conclusion of course work, nonthesis students will be given a comprehensive examination. In consultation with the faculty adviser, two additional faculty members shall be selected to serve on the Examination Committee that will be chaired by the faculty adviser. This committee must be selected by the semester prior to the semester in which the student will take the exam. The comprehensive examination will consist of two phases. The first phase requires the student to write three (3) papers to answer a question from each member of their Examination Committee. Each paper will be 7-10 pages in length and will be due one week (7 days) from the date the student is provided the questions. The second phase will be a 90 minute comprehensive oral examination with two formal rounds of questions from the Examination Committee.

A successful comprehensive examination completes the requirements for the degree. Students are required to follow all procedures and timetables specified by the College of Graduate Studies. The examination will be based on the course work in the student's program of study. Students must notify the department's graduate program director in writing of their intent to take the exam at least one week before the date fixed for the examination. A committee composed of three faculty members will conduct the examination. The grading system for the examination is as follows: 1) Pass with Distinction, 2) Pass, 3) Conditional Pass, and 4) Fail. Students who receive a grade of Conditional Pass will be required to complete additional work as determined by the grading committee. Students who fail must retake the exam. Failure to pass the examination on the second attempt will result in dismissal from the program. Students who indicate their intent to take the examination but do not take the exam will be awarded a failing grade.

INDEPENDENT LEARNING

Students who choose the thesis option will gain independent learning experiences through their thesis research where they are expected to design and conduct their own research which culminates with the writing and defense of their thesis. Students will also gain this experience through their core course requirements as each course contains an independent research assignment. Students in the nonthesis option will gain independent learning experiences through all of their core courses, all of which contain an independent research component.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a personal statement of intent, and three letters of recommendation.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years. The program's preferred minimum score is 300 on the GRE revised General Test.
- Personal statement of intent that must include the student's research interest, geographical area of interest, faculty they would like to work with, and future career plans (500 words).
- Contact with a potential advisor is recommended prior to application. Advisors are unable to grant admission to applicants prior to all application materials being submitted and reviewed by the department.
- Three letters of recommendation that assess the applicant's potential as a graduate student. These letters should come from the applicant's previous professors and should not be more than 12-months old at the time of application.

The applicant's record will be reviewed on an individual basis and evaluated to assess the applicant's potential for success in the program. Students will be selected for the program on a competitive basis. Supplemental course work may be recommended for students who do not have a degree in anthropology or are missing key undergraduate course work.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program to the applicant's career/academic goals, availability and match to a faculty adviser, and the applicant's potential for completing the degree. There is no automatic connection between acceptance as a non-degree-seeking student and acceptance into this degree-granting program. Please consult the graduate program director whenever questions arise.

Application Deadlines

Anthropology MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Feb 15	Nov 1	
International Applicants	Jan 1	Jan 1	Jul 1	
International Transfer Applicants	Jan 1	Feb 15	Sep 1	

CONTACT INFO

Ty Matejowsky PhD
Associate Professor
Program Director
ty.matejowsky@ucf.edu
407-823-4611
HPH RM 309

Applied Learning and Instruction MA

PROGRAM DESCRIPTION

The Master of Arts in Applied Learning and Instruction program is designed for students from diverse academic majors who have an interest in the application of psychological theories and research to improving learning, instruction, and training in a variety of instructional contexts.

Graduates of the program will be prepared for a wide range of professional education, government, and industry positions, and for conducting activities such as instruction, training, evaluation, and consulting.

Students are able to tailor the program to meet their particular needs and interests by choosing among a large variety of courses for their concentration, including courses in teaching, instructional design, program evaluation, and psychological foundations. Courses are available in mixed mode (M) or fully online (W). The degree can be completed in the fully online mode.

Specialization and core courses are offered in the areas of the psychology of teaching and learning, motivation, human development, measurement, and research methodology. Both a thesis and a non-thesis option are available. All students will be required to complete a comprehensive examination before completing the program.

Applications are accepted only for Fall admission. There are no Spring or Summer applicants accepted.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The Applied Learning and Instruction MA (ALIMA) program requires a minimum of 33 credit hours beyond the bachelor's degree including 15 credit hours of core courses, 12 credit hours of specialization, and 6 credit hours of a research component. The research component can be completed by choosing the thesis or nonthesis option, which requires a 6 credit hour Capstone research course. The program of study can be tailored to meet the specific needs of each student. The degree program can be completed in mixed mode (M) or fully online (W) formats.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

In addition to the course work, students are expected to meet the Continuous Attendance policy for graduate students. Please see the Continuous Attendance and Special Leave of Absence policies in the Graduate Catalog.

Required Courses—27 Credit Hours

Core—15 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDP 6213 Applied Learning and Instruction Seminar I (3 credit hours)
- EDP 6217 Applied Learning and Instruction Seminar II (3 credit hours)
- EDF 6216 Motivation in Learning and Performance (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)

Specialization—12 Credit Hours

Students have the choice of taking specialization courses in multiple areas. Specialization courses may be taken within one specialization, or from multiple specializations. The purpose of this choice is to provide course offerings which appeal to student interest, but concurrently facilitate depth of knowledge in a particular discipline.

The student, program director and student advisers together determine a course of study to meet the student's needs while simultaneously developing core knowledge in a specific area with the adviser's approval. In addition, the adviser may approve courses taken as part of a UCF certificate program for this area of the MA (up to 12 credit hours). The adviser must approve all specialization courses.

Psychological Foundations*

- DEP 5057 Developmental Psychology (3 credit hours)
- EDF 6259 Learning Theories Applied to Classroom Instruction and Management (3 credit hours)
- EDF 6141 Human Intelligence (3 credit hours)
- SPS 6225 Behavioral and Observational Analysis of Classroom Interactions in Schools (3 credit hours)
- SPS 6700 Advanced Educational Psychology (3 credit hours)
- EGC 6431 Guiding Human Relations I (3 credit hours)
- EGC 6432 Guiding Human Relations II (3 credit hours)

Business/Training*

- INP 6317 Organizational Psychology and Motivation (3 credit hours)
- PSY 6216C Advanced Research Methodology I (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAN 6285 Change Management (3 credit hours)

Instructional Design*

- EME 6607 Planned Change in Instructional Technology (3 credit hours)
- EME 6602 Integrating Technology into Curriculum (3 credit hours)
- EME 6601 Instructional Simulation Design (3 credit hours)
- EME 6457 Distance Education (3 credit hours)
- EME 6507 Multimedia For Learning I (3 credit hours)
- EME 6613 Instructional Systems Design (3 credit hours)
- EME 6405 Application Software (3 credit hours)
- EME 6614 Instructional Game Design (3 credit hours)
- EME 6705 Administration of Instructional Systems (3 credit hours)
- EME 6055 Current Trends in Instructional Technology (3 credit hours)

Teaching*

- EDF 6237 Principles of Learning and Introduction to Classroom Assessment (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)
- EDF 6233 Analysis of Classroom Teaching (3 credit hours)
- ESE 6217 Curriculum Design (3 credit hours)
- EME 5053 Electronic Resources in Education (3 credit hours)

Program Evaluation*

- EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDG 6285 Evaluation of School Programs (3 credit hours)
- ESE 6416 Curriculum Evaluation (3 credit hours)

*Other electives to be determined by adviser with program approval.

Thesis Option—6 Credit Hours

- EDF 6971 Thesis (6 credit hours)

Steps for Completing a Master's Thesis

1. Submit a 2–3 page thesis prospectus and preliminary bibliography on a topic to their thesis adviser. Prior to enrollment into thesis credit hours, the student will identify a Thesis Committee to be further approved by the College Graduate Dean and the College of Graduate Studies. This committee is chaired by the adviser and includes two or more additional faculty members from the School of Teaching, Learning, and Leadership (minimum of 3 committee members required).
2. The formal thesis is initiated by the preparation of a proposal that meets both departmental and university requirements for the thesis. The members of the student's thesis committee review the proposal as the preliminary step to beginning the thesis. Students are responsible for sending their proposal to all committee members at least three weeks before the end of the semester. This committee must approve the Thesis Proposal before academic credit can accrue.
3. Once the proposal is approved by both the committee and the UCF Institutional Review Board, students should begin collecting and analyzing their data. Students should expect to defend their proposal during the semester in which they are enrolled for thesis credits.
4. The thesis is a formal written document. The introduction cites similar, related, and antecedent work. The body explains the purposes of the project, the method of its production, and any evaluation that was performed. The conclusion includes plans for future work. The thesis also includes an archival copy of the resulting creative product. Both the thesis and the creative product must be delivered in digital form, acceptable by the College of Graduate Studies and UCF library according to standards for digital dissertations and theses.

Nonthesis Option—6 Credit Hours

Six credit hours of Capstone coursework is required to give the student a foundation in conducting research.

- EDP 6936 Capstone in Applied Learning and Instruction (6 credit hours)

Scholarly Product Requirement (Review 1)

Before the end of three years in the ALIMA program, students are required to submit evidence of their ability to conduct a scholarly examination of research in a chosen area in the field of educational psychology. They will demonstrate this ability by producing a scholarly review of literature to present a thorough overview of research surrounding a particular problem involving learning and/or instruction. As part of the review, students will present a list of research and theory-based potential solutions to the identified problem. This project will be introduced in the Seminar in Applied Learning and Instruction I and completed the following semester in Seminar in Applied Learning and Instruction II.

Comprehensive Exams (Review II)

The comprehensive exams serve as the culminating experience of the ALIMA program. The comprehensive exam must be completed no later than 30 days before the end of the semester in which the student graduates.

Nonthesis Option

For students electing not to write a thesis, the comprehensive exam will consist of three questions. The student will have one week to answer the questions in a take-home, extended essay file format. Students must cite all instances where their ideas are directly or indirectly related to outside sources. Students may not consult with other students or use Wikipedia or other online sources to complete their exams. Exams will be graded based on a pass or fail basis. Students who fail the exam marginally may be asked to rewrite specific questions. Students who fail the exam may be requested by their adviser to retake courses in areas of deficiency and will not be eligible to receive their master's degree until the exam is passed.

Thesis Option

For students electing to submit a thesis, their comprehensive exam will take place as an oral exam no less than 3 weeks after the final version of their thesis is submitted to their committee. During the course of the oral exam, students will be asked to defend their thesis, as well as respond to questions that require them to integrate and synthesize information learned in their core courses.

INDEPENDENT LEARNING

The MA program requires the completion of a research project. Research projects are independent learning activities in which students must apply, reflect upon, and refine knowledge and skills required in the program. By the end of the fourth semester in this program, each student must satisfy a scholarly product requirement (Review I). This requirement can be met in one of two ways: students can submit a research study to a refereed journal (with faculty assistance), or submit a proposal for a presentation at an annual conference of a national or local organization (from an approved list of resources). The student must be primarily responsible for conceptualizing, carrying out, and reporting the results in both of these options. The student is responsible for obtaining approval of the product from his or her master's committee.

APPLICATION REQUIREMENTS

In addition to meeting general application requirements, applicants must provide a goal statement and a scholarly or professional writing sample. Both the goal statement and the writing sample should be submitted with the online application and emailed to the faculty program coordinator: Bobby.Hoffman@ucf.edu.

In addition to meeting the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.

- One page statement of professional interests and goals addressing why the applicant is interested in the degree program.
- A scholarly or professional writing sample (preferably an undergraduate academic paper).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Applied Learning and Instruction MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Bobby Hoffman PhD
Program Director
bobby.hoffman@ucf.edu
ED 220N

Biology MS

PROGRAM DESCRIPTION

The Master of Science in Biology program offers a broad range of training opportunities ranging from the sub-cellular to entire ecosystems.

Our program offers broad-based training in a variety of disciplines including Conservation Biology, Ecology, Evolution, Physiology, Genetics and Cell and Developmental Biology.

CURRICULUM

The Master of Science in Biology program offers a thesis and nonthesis option for students. The thesis option requires a minimum of 30 credit hours, 15 of which must be at the 6000 level. Students choosing the thesis option must receive a commitment from a faculty adviser for admission into the program. The nonthesis option requires a minimum of 40 credit hours, 20 of which must be at the 6000 level. Students interested in the nonthesis option should contact the program graduate coordinator before applying. Both options must contain a minimum of 24 credit hours of formal course work excluding research.

Total Credit Hours Required:

30-40 Credit Hours Minimum beyond the Bachelor's Degree

Most graduate courses require reading and critical analysis of the primary literature in biology, and students are required to make presentations of their analysis or present proposals outlining a series of integrated experiments that would further knowledge in the field. Thesis students work with a faculty adviser and advisory committee members throughout the planning and conduct of their research. They submit a thesis proposal to the committee for approval prior to conducting the research and present a thesis defense and examination upon completion of that work. All nonthesis students are required to take a research report course (BSC 6909), where they are paired with individual faculty and organize and summarize knowledge in a research report.

Required Courses—7 Credit Hours

- BSC 6935 Seminar in Biology (2 credit hours; 1 credit hour each of two semesters)
- PCB 6095 Professional Development in Biology I (1 credit hour)
- PCB 6096 Professional Development in Biology II (1 credit hour)
- PCB 6466 Methods in Experimental Ecology (3 credit hours)

Thesis Option—23 Credit Hours

- BSC 6971 Thesis (a minimum of 6 credit hours)
- Electives (17 credit hours), selected with the faculty adviser and advisory committee and approved by the program graduate coordinator

Examinations

A thesis proposal defense is required. The purpose of the proposal defense is to present the planned research and its foundations as a seminar to an interested audience of peers and the advisory committee. The proposal should be distributed to advisory committee members two weeks in advance of the defense, and the defense should be advertised (contact the graduate program administrator two weeks in advance). Public attendees typically have an opportunity to ask questions and comment following the seminar, after which the committee meets with the student to further discuss the proposal. The advisory committee must then vote to accept or reject the proposal. The thesis proposal defense must be passed a minimum of one semester preceding the oral thesis defense (i.e., the proposal defense and thesis defense cannot occur in the same semester). When the research is completed, the final oral thesis defense is conducted similar to the proposal defense.

Nonthesis Option—33 Credit Hours

In addition to the 7 credit hours of required courses listed above, nonthesis students must complete 12 credit hours of restricted electives, 19 credit hours of unrestricted electives, and a research report. Students interested in the nonthesis option should contact the program graduate coordinator before applying.

Restricted Electives—12 Credit Hours

Students take 12 credit hours of courses in at least three of the five areas below.

- Ecology
- Evolutionary Biology
- Genetics
- Physiology
- Cell and Developmental Biology

Unrestricted Electives—19 Credit Hours

Students take 19 credit hours of unrestricted electives that must be approved by the program graduate coordinator.

Research Report—2 Credit Hours

- BSC 6909 Research Report (2 credit hours)

Examination

Nonthesis students must take the comprehensive exam no later than the semester preceding that of graduation. If a student fails the comprehensive examination, a minimum of four weeks must elapse before reexamination. The comprehensive exam may be taken a maximum of two times.

INDEPENDENT LEARNING

Nonthesis students are required to complete a research report as their independent learning experience.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, a résumé, and a written statement of past experience and research; applicants from countries where English is not the official language or applicants with degrees from non-U.S. accredited institutions must achieve a minimum score of 230 on the TOEFL.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Official, competitive GRE score taken within the last five years
- Three letters of recommendation that address the applicant's capabilities and likelihood of success as an M.S. student.
- Résumé
- A written statement of past experience and research, area of interest, and immediate and long-range goals
- A computer-based score of 230 (or 89 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Applicants do not need to have an undergraduate degree in a biological science, but are expected to have 18 hours of biological sciences, including ecology and genetics. Courses in organic chemistry, calculus, and statistics are also recommended. After acceptance, minor deficiencies must be remedied by enrollment in the appropriate course at the first opportunity.

Applicants to the thesis option should first identify faculty who match their own research interests, and then contact faculty in advance to inquire about research opportunities in faculty labs and to solicit agreement that a faculty member is interested in serving as the student's dissertation advisor. Applicants to the thesis option who do not have a consenting thesis advisor within the department faculty will not be accepted into the program. Applicants to the non-thesis option or the Conservation Biology PSM need not seek a thesis advisor.

Applicants who do not have a competitive GPA or GRE may occasionally be accepted if there is other convincing evidence of potential for high achievement and success. For U.S. applicants, GRE scores can be self reported prior by the submission deadline if the official score cannot be received in time. Admission will be conditional upon receipt of the official score. Applicants failing to satisfy minimum program criteria should submit a GRE Subject (Advanced) Biology Test score at or above the 50th percentile.

Application Deadlines

Biology MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Kenneth Fedorka PhD
Assistant Professor
Program Director
kenneth.fedorka@ucf.edu
407-823-6685
BL 401B

Biomedical Engineering MSBME

- Accelerated BS to MSBME
- Biofluids
- Biomechanics
- MD / MSBME

PROGRAM DESCRIPTION

Graduates will have a command of the application of engineering principles to biological and health systems. They will gain skills in modern biomedical engineering tools, understanding of relevant physiology and biology, knowledge of contemporary topics in medical technology, and ability to engage in advanced engineering studies including elements of research, analysis, design and experimentation.

Career opportunities include research, design, analysis, testing and product development in the biomedical and rehabilitation industries, in clinical engineering, and in biomedical engineering.

The MSBME degree offers the following gateways into the program:

- MSBME for students with formal training in engineering or biomedical engineering who have earned a BS degree and are seeking postbaccalaureate education and training.
- MSBME along-the-way to engineering students who are admitted into the PhD program in MAE and engaged in BME research.
- MSBME to students in the BS-to-MS track.
- MSBME to recent BS graduates potentially interested in pursuing PhD research with preference for admission to the UCF doctoral graduate program upon completion.

- A combined MD/MSBME to UCF College of Medicine MD students with engineering background and interest who can pursue the degree with one additional year sandwiched between the end of the second and beginning of the third year of medical school. This program is aimed at MD students who wish to expand on their years one and two College of Medicine FIRE (Focused Individualized Research Experience) project into an MS thesis.

The program offers thesis and nonthesis options:

- Biofluids Track - Thesis and Nonthesis options
- Biomechanics Track - Thesis and Nonthesis options
- MD/MSBME Track - Thesis only

CURRICULUM

The MSBME requires completion of 30 hours at the graduate level (a combination of 5000 and 6000 level classes) and will be offered with two options: (1) thesis (30 credit hours): 24 credit hours of coursework plus 6 credit hours of thesis with at least 15 credit hours at the 6000 level. (2) nonthesis options (30 credit hours): 30 credit hours of coursework with at least 15 credit hours at the 6000 level.

There are four tracks according to which the curriculum is structured within each option: Accelerated BS to MS, Biofluids, Biomechanics, and MD/MSBME.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

All students must identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. Students should consult with the MAE Graduate Program Director for assistance in filling out their program of study. The program of study must be met with departmental approval.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program. Substitutions to the program of study must meet with the approval of the adviser and the department. More information is available from the MAE departmental website listed above.

For the Accelerated BS to MS track, the BS is awarded after completion of 128 university credit hours and 71 hours of engineering courses and all other university requirements, and the MS is awarded upon completion of the Master in Biomedical Engineering program. Courses designated in General Education Program and Common Program Prerequisites are usually completed in the first 60 hours (see engineering major requirements in the Undergraduate Catalog).

Thesis

The thesis option requires 30 credit hours, at least half of which must be at the 6000 level and will include 6 credit hours of thesis credit. A student pursuing the thesis program may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website (www.cecs.ucf.edu) and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

At least 24 credit hours of the program of study must be course work, exclusive of thesis and research.

Nonthesis

The nonthesis option is primarily designed to meet the needs of part-time students and requires 30 credit hours of course work, at least one-half of which must be at the 6000 level.

At least 24 credit hours of the program of study must be course work, exclusive of research and thesis credit hours.

Graduation

Graduation requirements for the MSBME program follow the standards of the College of Engineering and Computer Science and the UCF College of Graduate Studies graduation requirements. For all tracks and options, students must maintain a minimum 3.0 graduate program GPA to be eligible to graduate. Students in the thesis option must complete 24 hours of coursework (at least half of which is at the 6000 level) and 6 hours of Thesis (6971), and present and successfully defend an thesis. Students in the nonthesis option must complete 30 hours of coursework (half of which is at the 6000 level).

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Biomedical Engineering MSBME

Accelerated BS to MSBME

TRACK DESCRIPTION

The Accelerated Undergraduate/Graduate program in Biomedical Engineering allows highly qualified undergraduate majors in Mechanical Engineering and Aerospace Engineering to begin taking graduate-level courses that will count toward their master’s degree while completing their baccalaureate degree program. Participation will enable completion of the Bachelor of Science and Master of Science degrees in five instead of six years for students enrolled in full-time course work.

CURRICULUM

The BSME or BSAE is awarded after completing all university requirements, including 128 total credit hours and 71 credit hours of engineering courses. The MSBME is awarded upon completion of the master’s program. Courses designated in General Education Program and Common Program Prerequisites are usually completed in the first 60 hours (see engineering major requirements in the Undergraduate Catalog).

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Up to 12 credit hours of approved graduate level courses of grades "B" (3.0) or better may be counted toward the BS and MS degrees. Additional notes on the Accelerated Undergraduate and Graduate Program in Mechanical Engineering are as follows:

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a "B" (3.0) in each undergraduate and graduate engineering course for them to be counted toward the major.

For the **Biofluids Track**, qualified courses that may be selected for the Accelerated BS to MS are:

- EML 6211 Continuum Mechanics (3 credit hours)
- BME 5216C Mechanics of Biostructures I (3 credit hours)
- BME 5217C Mechanics of Biostructures II (3 credit hours)
- BME 5267 Biofluid Mechanics (3 credit hours)
- BME 5268C Applied and Computational Biofluids (3 credit hours)
- Or a technical elective approved by the graduate program director

For the **Biomechanics Track**, qualified courses that may be selected for the Accelerated BS to MS are:

- EML 6211 Continuum Mechanics (3 credit hours)
- BME 5216C Mechanics of Biostructures I (3 credit hours)
- BME 5217C Mechanics of Biostructures II (3 credit hours)
- BME 6500C Bioinstrumentation (3 credit hours)
- BME 6215 Advanced Biomechanics (3 credit hours)
- EML 6067 Finite Elements I (3 credit hours)
- Or a technical elective approved by the graduate program director

Representative Electives

- BME 5572 Biomedical Nanotechnology (3 credit hours)
- BSC 5418 Tissue Engineering (3 credit hours)
- EEE 5265 Biomedical Effects and Applications of Electromagnetic Energy (3 credit hours)
- EEE 5272 Biomedical Sensors (3 credit hours)
- EEL 5690 Introduction to Medical Robotics and Tele-Operation (3 credit hours)
- EMA 5060 Polymer Science and Engineering (3 credit hours)
- EMA 5584 Biomaterials (3 credit hours)
- EMA 5588 Biocompatibility of Materials (3 credit hours)
- EML 5060 Mathematical Methods in Mechanical and Aerospace Engineering (3 credit hours)
- EML 5066 Computational Methods in Mechanical and Aerospace Engineering (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5291 MEMS Materials (3 credit hours)
- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EML 6068 Finite Elements in Mechanical, Materials, and Aerospace Engineering II (3 credit hours)
- EML 6299 Advanced Topics on Miniaturization (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6609 Industrial Engineering Analytics for Healthcare (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- IDS 6252 Biomedical Nanotechnology (3 credit hours)
- IDS 6253 Bioanalytical Technology (3 credit hours)

Undergraduate Requirements

Please see the current edition of the Undergraduate Catalog for additional information about this program.

Graduate Requirements

The Biomedical Engineering program requires a minimum of 30 credit hours beyond the bachelor's degree, and offers thesis and nonthesis options in two tracks, Biofluids and Biomechanics. At least 24 credit hours of course work must be taken, exclusive of thesis and research. The thesis options require 24 credit hours of formal courses, and six credit hours of thesis. Accelerated Biomedical Engineering students must declare their interest in either the Biofluids Track or the Biomechanics Track by completing a Program of Study with their adviser.

Additionally, all students pursuing the thesis option must enroll in the following course:

- EML 5936 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

The nonthesis options require 30 credit hours of courses, including completion of BME 6935 Topics in Biomedical Engineering.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis for the thesis option. For nonthesis students, the independent learning experience is provided by BME 6935 Topics in Biomedical Engineering, one of the required courses.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

The **Accelerated BS to MS** program in Biomedical Engineering allows highly qualified University of Central Florida undergraduate majors in Mechanical or Aerospace Engineering to begin taking graduate level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to either the **Biofluids Track** or **Biomechanics Track**.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Résumé.
- A written statement of experience and research, areas of interest, and future career goals.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Applicants should contact the MMAE graduate program director for more information.

Application Deadlines

Accelerated BS to MSBME	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Biomedical Engineering MSBME

Biofluids

TRACK DESCRIPTION

The Biofluids track in the Master of Science degree in Biomedical Engineering provides graduates with professional skills enabling them to gain employment in the biomedical engineering industry or to enter competitive Biomedical Engineering PhD research programs. Career opportunities include research, design, analysis, testing and product development in the biomedical and rehabilitation industries, in clinical engineering, and in biomedical engineering.

Current research focuses on translational research in multiscale computational fluid dynamics for cardiovascular treatment planning, lung cancer treatment planning, upper airways fluid mechanics, bioacoustics for patient monitoring and bedside diagnosis.

CURRICULUM

The Master of Science in Biomedical Engineering requires 30 credit hours at the graduate level (a combination of 5000 and 6000 level courses) and offers both thesis and nonthesis options.

Thesis students take 15 credit hours of required courses, 6 credit hours of Biofluids courses, 3 credit hours of an approved elective, and 6 credit hours of thesis.

The nonthesis option is primarily designed to meet the needs of part-time students and requires 30 credit hours of coursework. Nonthesis students take 15 credit hours of required courses, 6 credit hours of Biofluids courses, and 9 credit hours of approved electives.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

All students must take at least 15 credit hours at the 6000 level. At least 24 credit hours of the program of study must be course work, exclusive of research and thesis hours.

All students must identify an adviser and file an official program of study prior to the completion of 9 credit hours of study. Students should consult with the MAE Graduate Program Director for assistance in filling out their program of study. The program of study must be approved by the department.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program. Substitutions to the program of study must be approved by the student's faculty adviser and department. More information is available on the MAE departmental website (http://www.mae.ucf.edu/).

Prerequisites for non-engineering students applying to the program

- Calculus with Analytic Geometry I (MAC 2311C), Calculus with Analytic Geometry II (MAC 2312), Calculus with Analytic Geometry (MAC 2313), Ordinary Differential Equations (MAP 2302)
- Engineering Analysis - Statics (EGN 3310), Engineering Analysis - Dynamics (EGN 3321), and Solid Mechanics (EGM 3601)
- Thermodynamics (EGN 3343)*
- Fluid Mechanics I (EML 4702) and Fluid Mechanics II (EML 4703)
- Heat Transfer (EML 4142)
- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034C)*
- Mechanical Engineering Measurements (EML 3303C)*

* Or equivalent (see graduate adviser)

Required Courses—15 Credit Hours

- BME 5216C Mechanics of Biostructures I (3 credit hours)
- BME 5217C Mechanics of Biostructures II (3 credit hours)
- BME 6500C Bioinstrumentation (3 credit hours)
- BME 6935 Topics in Biomedical Engineering (3 credit hours)
- EML 6211 Continuum Mechanics (3 credit hours)

Biofluids Courses—6 Credit Hours

- BME 5267 Biofluid Mechanics (3 credit hours)
- BME 5268C Applied and Computational Biofluids (3 credit hours)

Representative Electives

- BME 5572 Biomedical Nanotechnology (3 credit hours)
- BSC 5418 Tissue Engineering (3 credit hours)
- EEE 5265 Biomedical Effects and Applications of Electromagnetic Energy (3 credit hours)
- EEE 5272 Biomedical Sensors (3 credit hours)
- EEL 5690 Introduction to Medical Robotics and Tele-Operation (3 credit hours)
- EMA 5060 Polymer Science and Engineering (3 credit hours)
- EMA 5584 Biomaterials (3 credit hours)
- EMA 5588 Biocompatibility of Materials (3 credit hours)
- EML 5060 Mathematical Methods in Mechanical and Aerospace Engineering (3 credit hours)
- EML 5066 Computational Methods in Mechanical and Aerospace Engineering (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5291 MEMS Materials (3 credit hours)

- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EML 6068 Finite Elements in Mechanical, Materials, and Aerospace Engineering II (3 credit hours)
- EML 6299 Advanced Topics on Miniaturization (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6609 Industrial Engineering Analytics for Healthcare (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- IDS 6252 Biomedical Nanotechnology (3 credit hours)
- IDS 6253 Bioanalytical Technology (3 credit hours)

Thesis Option—9 Credit Hours

Students may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the student's program of study and the proposed thesis topic.

- BME 6971 Thesis (6 credit hours)
- Approved elective at 5000 or 6000 level (3 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website (www.cecs.ucf.edu) and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option—9 Credit Hours

- Three approved electives at 5000 or 6000 level (3 credit hours each, for a total of 9 credit hours)

MAE Department Graduate Seminar Requirement

The MAE Graduate Seminar is a zero credit hour (S/U) course that is offered each Fall and Spring academic semesters. All MAE graduate students who are pursuing the MSBME are required to register, participate in, and receive a satisfactory (S) grade for two semesters of MAE Graduate Seminar prior to graduation.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis for the thesis option. For nonthesis students, the independent learning experience is provided by BME 6935 Topics in Biomedical Engineering, one of the required courses.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biomedical, Mechanical or Aerospace Engineering, or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

Application Deadlines

Biofluids	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Biomedical Engineering MSBME

Biomechanics

TRACK DESCRIPTION

The Biomechanics track in the Master of Science degree in Biomedical Engineering provides graduates with professional skills enabling them to gain employment in the biomedical engineering industry or to enter competitive Biomedical Engineering PhD research programs. Career opportunities include research, design, analysis, testing and product development in the biomedical and rehabilitation industries, in clinical engineering, and in biomedical engineering.

The current research focus is in biomechanics, developmental dysplasia of the hip, cellular mechanics and force-induced biochemical responses, image guided surgery, surgical robotics navigation and tracking, soft robotics, and biomechanics of movement rehabilitation and neural control of movement.

CURRICULUM

The Master of Science in Biomedical Engineering requires 30 credit hours at the graduate level (a combination of 5000 and 6000 level courses) and offers both thesis and nonthesis options.

Thesis students take 15 credit hours of required courses, 6 credit hours of Biomechanics courses, 3 credit hours of an approved elective, and 6 credit hours of thesis.

The nonthesis option is primarily designed to meet the needs of part-time students and requires 30 credit hours of coursework. Nonthesis students take 15 credit hours of required courses, 6 credit hours of Biomechanics courses, and 9 credit hours of approved electives.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

All students must take at least 15 credit hours at the 6000 level. At least 24 credit hours of the program of study must be course work, exclusive of research and thesis hours.

All students must identify an adviser and file an official program of study prior to the completion of 9 credit hours of study. Students should consult with the MAE Graduate Program Director for assistance in filling out their program of study. The program of study must be approved by the department.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program. Substitutions to the program of study must be approved by the student’s faculty adviser and department. More information is available on the MAE departmental website (http://www.mae.ucf.edu/).

Prerequisites for non-engineering students applying to the program

- Calculus with Analytic Geometry I (MAC 2311C), Calculus with Analytic Geometry II (MAC 2312), Calculus with Analytic Geometry (MAC 2313), Ordinary Differential Equations (MAP 2302)

- Engineering Analysis - Statics (EGN 3310), Engineering Analysis - Dynamics (EGN 3321), and Solid Mechanics (EGM 3601)
- Thermodynamics (EGN 3343)*
- Design and Analysis of Machine Components (EML 3500)
- Introduction to Vibrations and Controls (EML 4225)
- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034C)*
- Mechanical Engineering Measurements (EML 3303C)*

* Or equivalent (see graduate adviser)

Required Courses—15 Credit Hours

- BME 5216C Mechanics of Biostructures I (3 credit hours)
- BME 5217C Mechanics of Biostructures II (3 credit hours)
- BME 6500C Bioinstrumentation (3 credit hours)
- BME 6935 Topics in Biomedical Engineering (3 credit hours)
- EML 6211 Continuum Mechanics (3 credit hours)

Biomechanics Courses—6 Credit Hours

- BME 6215 Advanced Biomechanics (3 credit hours)
- EML 6067 Finite Elements (3 credit hours)

Representative Electives

- BME 5572 Biomedical Nanotechnology (3 credit hours)
- BSC 5418 Tissue Engineering (3 credit hours)
- EEE 5265 Biomedical Effects and Applications of Electromagnetic Energy (3 credit hours)
- EEE 5272 Biomedical Sensors (3 credit hours)
- EEL 5690 Introduction to Medical Robotics and Tele-Operation (3 credit hours)
- EMA 5060 Polymer Science and Engineering (3 credit hours)
- EMA 5584 Biomaterials (3 credit hours)
- EMA 5588 Biocompatibility of Materials (3 credit hours)
- EML 5060 Mathematical Methods in Mechanical and Aerospace Engineering (3 credit hours)
- EML 5066 Computational Methods in Mechanical and Aerospace Engineering (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5291 MEMS Materials (3 credit hours)
- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EML 6068 Finite Elements in Mechanical, Materials, and Aerospace Engineering II (3 credit hours)
- EML 6299 Advanced Topics on Miniaturization (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6609 Industrial Engineering Analytics for Healthcare (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- IDS 6252 Biomedical Nanotechnology (3 credit hours)
- IDS 6253 Bioanalytical Technology (3 credit hours)

Thesis Option—9 Credit Hours

Students may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the student's program of study and the proposed thesis topic.

- BME 6971 Thesis (6 credit hours)
- Approved elective at 5000 or 6000 level (3 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website (www.cecs.ucf.edu) and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option—9 Credit Hours

- Three approved electives at 5000 or 6000 level (3 credit hours each, for a total of 9 credit hours)

MAE Department Graduate Seminar Requirement

The MAE Graduate Seminar is a zero credit hour (S/U) course that is offered each Fall and Spring academic semesters. All MAE graduate students who are pursuing the MSBME are required to register, participate in, and receive a satisfactory (S) grade for two semesters of MAE Graduate Seminar prior to graduation.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis for the thesis option. For nonthesis students, the independent learning experience is provided by BME 6935 Topics in Biomedical Engineering, one of the required courses.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biomedical, Mechanical or Aerospace Engineering, or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

Application Deadlines

Biomechanics	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Biomedical Engineering MSBME

MD / MSBME

TRACK DESCRIPTION

The Biomedical Engineering MS program offers an MD/MSBME Track that enables qualified students to earn both the MD and the MSBME degrees.

For medical students, the combined MD/MSBME will run as a 5-year program where the students will complete the majority of the MSBME requirements in the third year after matriculation, prior to their clinical experiences. MD students apply and are admitted into the MSBME program in Fall. Upon successful completion of the Structure and Function and FIRE modules in their first year of medical school, students in the MD/MSBME program will receive 9 hours of credit toward the 30 credit hours required for the requirements of the MSBME degree. Medical students will complete the second year of the curriculum and take a year's leave of absence to take most of the MSBME degree requirements.

CURRICULUM

The Biomedical Engineering MS program requires a minimum of 30 credit hours for students who choose the MD/MSBME track. In this restricted admission MD track, students complete biomedical engineering core courses, concentration courses in Biofluids or Biomechanics, and a thesis.

For MD students in this track, the combined MD/MSBME will be a five-year program, where students complete the majority of the MSBME requirements in the third year (15 credit hours of coursework and 3 credit hours of thesis), receive 9 credit hours of transfer credit from their MD program toward the 30 credit hours required for the MSBME, defend their master's thesis and take the balance of 3 credit hours of thesis in the fifth year, and then graduate with both MD and MSBME degrees.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

All students must take at least 15 credit hours at the 6000 level. At least 24 credit hours of the program of study must be course work, exclusive of research and thesis hours.

All students must identify an adviser and file an official program of study prior to the completion of 9 credit hours of study. Students should consult with the MAE Graduate Program Director for assistance in filling out their program of study. The program of study must be approved by the department.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program. Substitutions to the program of study must be approved by the student's faculty adviser and department. More information is available on the MAE departmental website (http://www.mae.ucf.edu/).

Required Courses—24 Credit Hours

Core Courses—18 Credit Hours

- BMS 6001 Cellular Function and Medical Genetics (Medical Module, 5 credit hours) and BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hours) replace EML 5587C and EML 5588C (9 credit hours transferred into MS program of study)
- BME 6500C Bioinstrumentation (3 credit hours)
- BME 6935 Topics in Biomedical Engineering (3 credit hours)
- EML 6211 Continuum Mechanics (3 credit hours)

Concentration—6 Credit Hours

Biofluids

- BME 5267 Biofluid Mechanics (3 credit hours)
- BME 5268C Applied and Computational Biofluids (3 credit hours)

Biomechanics

- BME 6215 Advanced Biomechanics (3 credit hours)
- EML 6067 Finite Elements (3 credit hours)

Representative Electives

- BME 5572 Biomedical Nanotechnology (3 credit hours)
- BSC 5418 Tissue Engineering (3 credit hours)
- EEE 5265 Biomedical Effects and Applications of Electromagnetic Energy (3 credit hours)
- EEE 5272 Biomedical Sensors (3 credit hours)
- EEL 5690 Introduction to Medical Robotics and Tele-Operation (3 credit hours)
- EMA 5060 Polymer Science and Engineering (3 credit hours)
- EMA 5584 Biomaterials (3 credit hours)
- EMA 5588 Biocompatibility of Materials (3 credit hours)
- EML 5060 Mathematical Methods in Mechanical and Aerospace Engineering (3 credit hours)
- EML 5066 Computational Methods in Mechanical and Aerospace Engineering (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5291 MEMS Materials (3 credit hours)
- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EML 6068 Finite Elements in Mechanical, Materials, and Aerospace Engineering II (3 credit hours)
- EML 6299 Advanced Topics on Miniaturization (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6609 Industrial Engineering Analytics for Healthcare (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- IDS 6252 Biomedical Nanotechnology (3 credit hours)

- IDS 6253 Bioanalytical Technology (3 credit hours)

Thesis—6 Credit Hours

Students may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the student's program of study and the proposed thesis topic.

- BME 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website (www.cecs.ucf.edu) and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

MAE Department Graduate Seminar Requirement

The MAE Graduate Seminar is a zero credit hour (S/U) course that is offered each Fall and Spring academic semesters. All MAE graduate students who are pursuing the MSBME are required to register, participate in, and receive a satisfactory (S) grade for two semesters of MAE Graduate Seminar prior to graduation.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Students interested in pursuing both the MD and MSBME degrees must apply and be accepted into medical school and the Biomedical Engineering MS program. Separate applications are required, but students wishing to pursue this joint degree program should indicate this and state their reasons on both applications. Information regarding admission and application to UCF's MD program can be found at https://med.ucf.edu/administrative-offices/student-affairs/admissions/

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biomedical, Mechanical or Aerospace Engineering, or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- In addition to the above requirements, students must also meet the requirements for medical school admission: https://med.ucf.edu/administrative-offices/student-affairs/admissions/

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MMAE graduate program director for further information.

Application Deadlines

MD / MSBME	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Biomedical Sciences MS

PROGRAM DESCRIPTION

The Master of Science in Biomedical Sciences program is a nonthesis program for students who wish to further their knowledge in the field and prepare for professional careers in medical fields, higher education, and research.Students interested in research and thesis work should apply to the Master of Science in Biotechnology program.

CURRICULUM

The Biomedical Sciences nonthesis program requires a minimum of 33 credit hours of courses that includes a capstone experience. The program addresses the need of applicants who wish to pursue a teaching career in secondary schools, two-year and four-year colleges or other careers without an active research role. Nonthesis students are not considered for departmental graduate assistantships or tuition assistance.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—18 Credit Hours

- BSC 6431 Practice of Biomedical Sciences (3 credit hours)
- BSC 6432 Structure-Function-Relationships of Biomedical Sciences I (5 credit hours)
- BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- MCB 6938 Seminar or IDS 7690 Seminar (1 credit hour, to be repeated by all students)

Elective Courses—12 Credit Hours

Nonthesis students take 12 credit hours of electives with 6 credit hours from the Biomedical Specialization and 6 credit hours from the Microbiology Specialization.

Biomedical Specialization

- BSC 5418 Tissue Engineering (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- PCB 5275 Signal Transduction Mechanisms (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- PCB 5709C Laboratory Virtual Simulations in Physiology (2 credit hours)
- PCB 5815 Molecular Aspects of Obesity, Diabetes, and Metabolism (3 credit hours)
- PCB 5834C Advanced Human Physiology (4 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- PCB 5265 Stem Cell Biology (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours)
- Others: If approved by Graduate Committee

Microbiology Specialization

- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5208 Cellular Microbiology: Host-Pathogen Interactions (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)

- MCB 5209 Microbial Stress Response (3 credit hours)
- PCB 6595 Regulation of Gene Expression (3 credit hours)
- PCB 5235 Molecular Immunology (3 credit hours)
- Others: If approved by Graduate Committee

Capstone—3 Credit Hours

- MCB 6026 Capstone Course (3 credit hours minimum)

An in-depth current literature research report on a relevant subject will be required for each student. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

An oral presentation on the written capstone report will be used as a final examination. A majority of the program faculty must be present for the final examination. Before graduation, the report should be submitted for consideration of publication as a review article in appropriate journals.

Comprehensive Examination

Nonthesis students must pass an oral comprehensive exam to qualify for the Master of Science degree.

Students must successfully pass an oral comprehensive examination to test the understanding of the basic concepts in the field and relevant applications. The comprehensive examination will be conducted during the capstone defense and will be administered by the capstone committee. Should the student fail this exam, a second opportunity will be provided within 2 weeks of the first attempt. A second failure will result in dismissal from the program.

Teaching Requirement

Students without significant prior teaching experience, such as, but not limited to, a minimum of a year in secondary schools or colleges, are required to serve as Graduate Teaching Assistants for a minimum two semesters (one semester in at least one lab section).

INDEPENDENT LEARNING

In the final semester of study, nonthesis students will complete a capstone course that requires an in-depth current literature research report on a relevant subject, which will serve as the independent learning experience. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, and a statement of research experience, area of interest, and immediate and long-range goals.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biological Sciences or related area.
- Official, competitive GRE score (taken within the last five years) or MCAT score (taken within the last three years).
- Three letters of recommendation.
- A written statement of research experience, area of interest, and immediate and long-range goals.
- Resume or CV.

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE/MCAT may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a BS degree in unrelated fields are expected to have the equivalent of 16 semester hours of credit in the biological sciences including a course in general microbiology, biochemistry or molecular biology or cell biology, plus one year of organic chemistry, one year of physics, basic university mathematics and statistics, and laboratory skills equivalent to the minimum required of our own undergraduates. Minor deficiencies may be remedied after acceptance by enrollment at the first opportunity in an appropriate course.

Application Deadlines

Biomedical Sciences MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Saleh Naser PhD
Professor
Program Director
saleh.naser@ucf.edu
407-823-0955
UCF College of Medicine

Biomedical Sciences MS

Neuroscience

TRACK DESCRIPTION

The Neuroscience Track in the Master of Science in Biomedical Sciences Program is a nonthesis plan of study for students who want to further their knowledge in the neuroscience field and who may pursue doctoral training or professional education focused on medicine and neuroscience. Students interested in research and thesis work should apply to the Master of Science in Biotechnology Program.

CURRICULUM

The Neuroscience Track in the Biomedical Sciences MS program requires a minimum of 33 credit hours of courses that includes a capstone experience. Students take 18 credit hours of required core courses, 12 credit hours of elective courses relevant to neuroscience, a capstone project focusing on neuroscience and an oral comprehensive exam.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Nonthesis students are not considered for departmental graduate assistantships or tuition assistance.

Required Courses—18 Credit Hours

- BSC 6432 Biomedical Sciences I (5 credit hours)
- BSC 6433 Biomedical Sciences II (5 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- MCB 6938 Seminar or IDS 7680 Seminar (1 credit hour, to be repeated by all students)
- PCB 5837 Molecular and Cellular Neuroscience (3 credit hours)

Elective Courses—12 Credit Hours

- SPA 6417 Cognitive/Communicative Disorders (3 credit hours)
- PCB 5275 Signal Transduction Mechanics (3 credit hours)
- ZOO 5748C Clinical Neuroanatomy (5 credit hours)
- ZOO 5749C Clinical Neuroscience (5 credit hours)
- CAP 6616 Neuroevolution and Generative and Developmental Systems (3 credit hours)
- PCB 5838 Cellular and Molecular Basis of Brain Functions (3 credit hours)
- BSC 5418 Tissue Engineering (3 credit hours)
- PCB 5709C Laboratory Virtual Simulations in Physiology (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- PCB 5834C Advanced Human Physiology (4 credit hours)
- EXP 5254 Human Factors and Aging (3 credit hours)
- DIG 5875C Introduction to Modeling and Simulation (3 credit hours)
- IDS 6916 Simulation Research Methods and Practicum (3 credit hours)
- EXP 5208 Sensation and Perception (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- EXP 6116 Visual Performance (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- PSB 6348 The Neuroanatomical Basis of Psychological Function (3 credit hours)
- PSB 6328 Psychophysiology (3 credit hours)
- PSB 6352 Neuroimaging Design and Analysis Methods (3 credit hours)
- Other elective courses must be approved by the Program Coordinator.

Capstone—3 Credit Hours

- MCB 6026 Capstone Course (3 credit hours minimum)

An in-depth current literature research report in the area of Neuroscience will be required for each student. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

The Capstone Process

Students are encouraged to contact faculty as early as possible in order to identify a faculty whose research focus complements the student's interest. The student and the mentor should select two additional faculty members to serve on the capstone evaluation committee.

Students must submit a signed Capstone Committee form to the Program Coordinator for approval as soon as the registration for the course is complete. The form must be submitted to the Program Office.

When you are ready to defend your Capstone project, you must register for the capstone course (MCB 6026) for three credit hours. It is important that the student register for the capstone course with the intention of completing the project at the end of the semester.

The Capstone Report

Evaluation of the capstone project requires a written report (in the format of a mini-review manuscript) and a presentation (project defense) in front of the capstone committee. No visitors are allowed during the capstone defense. Students may ask for advice and guidance from the project mentor/chair. The average capstone report ranges from 10 to 15 single-space pages in a manuscript format with proper citations. The student's Committee Chair will be responsible for checking the report for plagiarism using either Turnitin or iThenticate before the report is shared with the committee. The committee must receive the report at least one week before the time of presentation.

Note: The defense (presentation) must be held no later than one week before final exam week.

The Capstone Defense/Comprehensive Exam

The capstone defense and comprehensive exam evaluation is designed to assess the student's knowledge and understanding of the project and other relevant subjects in the field. Questions asked by the capstone committee to evaluate the student as competent in the field will satisfy the requirement of the comprehensive exam. The oral presentation will take place in the form of a 30-40 minute seminar and will be followed by questions and discussion.

The student will be evaluated on performance in all three sections (written report, oral presentation and ability to answer questions).

Should the student fail, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in an Unsatisfactory (U) grade in the course and dismissal from the program.

Comprehensive Examination

Students must pass an oral comprehensive exam to qualify for the Master of Science. The oral comprehensive exam tests the student's understanding of the basic concepts in the field and relevant applications. The comprehensive exam will be conducted during the capstone defense and will be administered by the capstone committee. Should the student fail this exam, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in dismissal from the program.

Teaching Requirement

Students without significant prior teaching experience, such as, but not limited to, a minimum of a year in secondary schools or colleges, are required to serve as Graduate Teaching Assistants for a minimum of one semester (one semester in at least one lab section).

Research Shadowing (Optional)

Students are encouraged to discuss with their capstone mentor the possibility of joining the lab for research shadowing of other graduate students. Acquired lab skills should assist students with the capstone project and with future endeavors.

INDEPENDENT LEARNING

In the final semester of study students will complete a capstone course that requires an in-depth current literature research report on a relevant subject, which will serve as the independent learning experience. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, and a statement of research experience, area of interest, and immediate and long-range goals.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biological Sciences or related area.
- Official, competitive GRE score (taken within the last five years) or MCAT score (taken within the last three years).
- Three letters of recommendation.
- A written statement of research experience, area of interest, and immediate and long-range goals.
- Resume or CV.

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE/MCAT may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a BS degree in unrelated fields are expected to have the equivalent of 16 semester hours of credit in the biological sciences including a course in general microbiology, biochemistry or molecular biology or cell biology, plus one year of organic chemistry, one year of physics, basic university mathematics and statistics, and laboratory skills equivalent to the minimum required of our own undergraduates. Minor deficiencies may be remedied after acceptance by enrollment at the first opportunity in an appropriate course.

Application Deadlines

Neuroscience	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Saleh Naser PhD
Professor
Program Director
saleh.naser@ucf.edu
407-823-0955
UCF College of Medicine

Biomedical Sciences MS

Cancer Biology

TRACK DESCRIPTION

The Cancer Biology Track in the Master of Science in Biomedical Sciences Program is a nonthesis plan of study for students who want to further their knowledge in the cancer biology field and who may pursue doctoral training or professional education focused on medicine and cancer biology. Students interested in research and thesis work should apply to the Master of Science in Biotechnology Program.

CURRICULUM

The Cancer Biology Track in the Biomedical Sciences MS program requires a minimum of 33 credit hours of courses that includes a capstone experience. Students take 18 credit hours of required core courses, 12 credit hours of elective courses relevant to cancer biology and related disciplines, a capstone project focusing on cancer biology and an oral comprehensive exam.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Nonthesis students are not considered for departmental graduate assistantships or tuition assistance.

Required Courses—18 Credit Hours

- BSC 6432 Biomedical Sciences I (5 credit hours)
- BSC 6433 Biomedical Sciences II (5 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- MCB 6938 Seminar or IDS 7680 Seminar (1 credit hour, to be repeated by all students)

Elective Courses—12 Credit Hours

- PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)
- PCB 5235 Molecular Immunology (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- PCB 6595 Regulation of Gene Expression (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- PCB 5275 Signal Transduction Mechanisms (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- BSC 5418 Tissue Engineering (3 credit hours)
- BSC 5436 Biomedical Informatics: Structure Analysis (3 credit hours)
- PCB 5265 Stem Cell Biology (3 credit hours)
- Other elective courses must be approved by the Program Coordinator.

Capstone—3 Credit Hours

- MCB 6026 Capstone Course (3 credit hours minimum)

An in-depth current literature research report in the area of Cancer Biology will be required for each student. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

The Capstone Process

Students are encouraged to contact faculty as early as possible in order to identify a faculty whose research focus complements the student's interest. The student and the mentor should select two additional faculty members to serve on the capstone evaluation committee.

Students must submit a signed Capstone Committee form to the Program Coordinator for approval as soon as the registration for the course is complete. The form must be submitted to the Program Office.

When you are ready to defend your Capstone project, you must register for the capstone course (MCB 6026) for three credit hours. It is important that the student register for the capstone course with the intention of completing the project at the end of the semester.

The Capstone Report

Evaluation of the capstone project requires a written report (in the format of a mini-review manuscript) and a presentation (project defense) in front of the capstone committee. No visitors are allowed during the capstone defense. Students may ask for advice and guidance from the project mentor/chair. The average capstone report ranges from 10 to 15 single-space pages in a manuscript format with proper citations. The student's Committee Chair will be responsible for checking the report for plagiarism using either Turnitin or iThenticate before the report is shared with the committee. The committee must receive the report at least one week before the time of presentation.

Note: The defense (presentation) must be held no later than one week before final exam week.

The Capstone Defense/Comprehensive Exam

The capstone defense and comprehensive exam evaluation is designed to assess the student's knowledge and understanding of the project and other relevant subjects in the field. Questions asked by the capstone committee to evaluate the student as competent in the field will satisfy the requirement of the comprehensive exam. The oral presentation will take place in the form of a 30-40 minute seminar and will be followed by questions and discussion.

The student will be evaluated on performance in all three sections (written report, oral presentation and ability to answer questions).

Should the student fail, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in an Unsatisfactory (U) grade in the course and dismissal from the program.

Comprehensive Examination

Students must pass an oral comprehensive exam to qualify for the Master of Science. The oral comprehensive exam tests the student's understanding of the basic concepts in the field and relevant applications. The comprehensive exam will be conducted during the capstone defense and will be administered by the capstone committee. Should the student fail this exam, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in dismissal from the program.

Teaching Requirement

Students without significant prior teaching experience, such as, but not limited to, a minimum of a year in secondary schools or colleges, are required to serve as Classroom Laboratory Assistants (CLA) for a minimum of one semester (one semester in at least one lab section).

Research Shadowing (Optional)

Students are encouraged to discuss with their capstone mentor the possibility of joining the lab for research shadowing of other graduate students. Acquired lab skills should assist students with the capstone project and with future endeavors.

INDEPENDENT LEARNING

In the final semester of study students will complete a capstone course that requires an in-depth current literature research report on a relevant subject, which will serve as the independent learning experience. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biological Sciences or related area.
- Official, competitive GRE score (taken within the last five years) or MCAT score (taken within the last three years).
- Three letters of recommendation.
- A written statement of research experience, area of interest, and immediate and long-range goals.
- Resume or CV.

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE/MCAT may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a BS degree in unrelated fields are expected to have the equivalent of 16 semester hours of credit in the biological sciences including a course in general microbiology, biochemistry or molecular biology or cell biology, plus one year of organic chemistry, one year of physics, basic university mathematics and statistics, and laboratory skills equivalent to the minimum required of our own undergraduates. Minor deficiencies may be remedied after acceptance by enrollment at the first opportunity in an appropriate course.

Application Deadlines

Cancer Biology	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Saleh Naser PhD
Professor
Program Director
saleh.naser@ucf.edu
407-823-0955
UCF College of Medicine

Biomedical Sciences MS

Infectious Disease

TRACK DESCRIPTION

The Infectious Disease Track in the Master of Science in Biomedical Sciences Program is a nonthesis plan of study for students who want to further their knowledge in the infectious disease field and who may pursue doctoral training or professional education focused on medicine and infectious disease. Students interested in research and thesis work should apply to the Master of Science in Biotechnology Program.

CURRICULUM

The Infectious Disease Track in the Biomedical Sciences MS program requires a minimum of 33 credit hours of courses that includes a capstone experience. Students take 18 credit hours of required core courses, 12 credit hours of elective courses relevant to infectious disease, a capstone project focusing on infectious disease and an oral comprehensive exam.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Nonthesis students are not considered for departmental graduate assistantships or tuition assistance.

Required Courses—18 Credit Hours

- BSC 6432 Biomedical Sciences I (5 credit hours)
- BSC 6433 Biomedical Sciences II (5 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- MCB 5208 Cellular Microbiology: Host-Pathogen Interactions (3 credit hours)
- MCB 6938 Seminar or IDS 7680 Seminar (1 credit hour, to be repeated by all students)

Elective Courses—12 Credit Hours

- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)
- MCB 5209 Microbial Stress Response (3 credit hours)
- PCB 6595 Regulation of Gene Expression (3 credit hours)
- PCB 5235 Molecular Immunology (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5275 Signal Transduction Mechanisms (3 credit hours)
- Other elective courses must be approved by the Program Coordinator.

Capstone—3 Credit Hours

- MCB 6026 Capstone Course (3 credit hours minimum)

An in-depth current literature research report in the area of Infectious Disease will be required for each student. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

The Capstone Process

Students are encouraged to contact faculty as early as possible in order to identify a faculty whose research focus complements the student's interest. The student and the mentor should select two additional faculty members to serve on the capstone evaluation committee.

Students must submit a signed Capstone Committee form to the Program Coordinator for approval as soon as the registration for the course is complete. The form must be submitted to the Program Office.

When you are ready to defend your Capstone project, you must register for the capstone course (MCB 6026) for three credit hours. It is important that the student register for the capstone course with the intention of completing the project at the end of the semester.

The Capstone Report

Evaluation of the capstone project requires a written report (in the format of a mini-review manuscript) and a presentation (project defense) in front of the capstone committee. No visitors are allowed during the capstone defense. Students may ask for advice and guidance from the project mentor/chair. The average capstone report ranges from 10 to 15 single-space pages in a manuscript format with proper citations. The student's Committee Chair will be responsible for checking the report for plagiarism using either Turnitin or iThenticate before the report is shared with the committee. The committee must receive the report at least one week before the time of presentation.

Note: The defense (presentation) must be held no later than one week before final exam week.

The Capstone Defense/Comprehensive Exam

The capstone defense and comprehensive exam evaluation is designed to assess the student's knowledge and understanding of the project and other relevant subjects in the field. Questions asked by the capstone committee to evaluate the student as competent in the field will satisfy the requirement of the comprehensive exam. The oral presentation will take place in the form of a 30-40 minute seminar and will be followed by questions and discussion.

The student will be evaluated on performance in all three sections (written report, oral presentation and ability to answer questions).

Should the student fail, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in an Unsatisfactory (U) grade in the course and dismissal from the program.

Comprehensive Examination

Students must pass an oral comprehensive exam to qualify for the Master of Science. The oral comprehensive exam tests the student's understanding of the basic concepts in the field and relevant applications. The comprehensive exam will be conducted during the capstone defense and will be administered by the capstone committee. Should the student fail this exam, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in dismissal from the program.

Teaching Requirement

Students without significant prior teaching experience, such as, but not limited to, a minimum of a year in secondary schools or colleges, are required to serve as Classroom Laboratory Assistants (CLA) for a minimum of one semester (one semester in at least one lab section).

Research Shadowing (Optional)

Students are encouraged to discuss with their capstone mentor the possibility of joining the lab for research shadowing of other graduate students. Acquired lab skills should assist students with the capstone project and with future endeavors.

INDEPENDENT LEARNING

In the final semester of study students will complete a capstone course that requires an in-depth current literature research report on a relevant subject, which will serve as the independent learning experience. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biological Sciences or related area.

- Official, competitive GRE score (taken within the last five years) or MCAT score (taken within the last three years).
- Three letters of recommendation.
- A written statement of research experience, area of interest, and immediate and long-range goals.
- Resume or CV.

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE/MCAT may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a BS degree in unrelated fields are expected to have the equivalent of 16 semester hours of credit in the biological sciences including a course in general microbiology, biochemistry or molecular biology or cell biology, plus one year of organic chemistry, one year of physics, basic university mathematics and statistics, and laboratory skills equivalent to the minimum required of our own undergraduates. Minor deficiencies may be remedied after acceptance by enrollment at the first opportunity in an appropriate course.

Application Deadlines

Infectious Disease	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Saleh Naser PhD
Professor
Program Director
saleh.naser@ucf.edu
407-823-0955
UCF College of Medicine

Biomedical Sciences MS

Metabolic and Cardiovascular Sciences

TRACK DESCRIPTION

The Metabolic and Cardiovascular Sciences Track in the Master of Science in Biomedical Sciences Program is a nonthesis plan of study for students who want to further their knowledge in the metabolic and cardiovascular sciences field and who may pursue doctoral training or professional education focused on medicine and metabolic and cardiovascular sciences. Students interested in research and thesis work should apply to the Master of Science in Biotechnology Program.

CURRICULUM

The Metabolic and Cardiovascular Sciences Track in the Master of Science in Biomedical Sciences Program is a nonthesis plan of study for students who want to further their knowledge in the metabolic and cardiovascular sciences field and who may pursue doctoral training or professional education focused on medicine and metabolic and cardiovascular sciences. Students interested in research and thesis work should apply to the Master of Science in Biotechnology Program.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Nonthesis students are not considered for departmental graduate assistantships or tuition assistance.

Required Courses—18 Credit Hours

- BSC 6432 Biomedical Sciences I (5 credit hours)
- BSC 6433 Biomedical Sciences II (5 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- PCB 5815 Molecular of Obesity, Diabetes and Metabolism (3 credit hours)
- MCB 6938 Seminar or IDS 7680 Seminar (1 credit hour, to be repeated by all students)

Elective Courses—12 Credit Hours

- MCB 5415 Cellular Metabolism (3 credit hours)
- PCB 5834C Advanced Human Physiology (4 credit hours)
- PCB 5265 Stem Cell Biology (3 credit hours)
- CHM 5305 Applied Biological Chemistry (3 credit hours)
- BSC 5436 Biomedical Informatics: Structure Analysis (3 credit hours)
- BSC 5418 Tissue Engineering (3 credit hours)
- PCB 5709C Laboratory Virtual Simulations in Physiology (2 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- PET 6366 Exercise, Nutrition, and Weight Control (3 credit hours)
- PET 6388 Cardiovascular Physiology (3 credit hours)
- Other elective courses must be approved by the Program Coordinator.

Capstone—3 Credit Hours

- MCB 6026 Capstone Course (3 credit hours minimum)

An in-depth current literature research report in the area of Metabolic and Cardiovascular Sciences will be required for each student. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

The Capstone Process

Students are encouraged to contact faculty as early as possible in order to identify a faculty whose research focus complements the student's interest. The student and the mentor should select two additional faculty members to serve on the capstone evaluation committee.

Students must submit a signed Capstone Committee form to the Program Coordinator for approval as soon as the registration for the course is complete. The form must be submitted to the Program Office.

When you are ready to defend your Capstone project, you must register for the capstone course (MCB 6026) for three credit hours. It is important that the student register for the capstone course with the intention of completing the project at the end of the semester.

The Capstone Report

Evaluation of the capstone project requires a written report (in the format of a mini-review manuscript) and a presentation (project defense) in front of the capstone committee. No visitors are allowed during the capstone defense. Students may ask for advice and guidance from the project mentor/chair. The average capstone report ranges from 10 to 15 single-space pages in a manuscript format with proper citations. The student's Committee Chair will be responsible for checking the report for plagiarism using either Turnitin or iThenticate before the report is shared with the committee. The committee must receive the report at least one week before the time of presentation.

Note: The defense (presentation) must be held no later than one week before final exam week.

The Capstone Defense/Comprehensive Exam

The capstone defense and comprehensive exam evaluation is designed to assess the student's knowledge and understanding of the project and other relevant subjects in the field. Questions asked by the capstone committee to evaluate the student as competent in the field will satisfy the requirement of the comprehensive exam. The oral presentation will take place in the form of a 30-40 minute seminar and will be followed by questions and discussion.

The student will be evaluated on performance in all three sections (written report, oral presentation and ability to answer questions).

Should the student fail, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in an Unsatisfactory (U) grade in the course and dismissal from the program.

Comprehensive Examination

Students must pass an oral comprehensive exam to qualify for the Master of Science. The oral comprehensive exam tests the student's understanding of the basic concepts in the field and relevant applications. The comprehensive exam will be conducted during the capstone defense and will be administered by the capstone committee. Should the student fail this exam, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in dismissal from the program.

Teaching Requirement

Students without significant prior teaching experience, such as, but not limited to, a minimum of a year in secondary schools or colleges, are required to serve as Classroom Laboratory Assistants (CLA) for a minimum of one semester (one semester in at least one lab section).

Research Shadowing (Optional)

Students are encouraged to discuss with their capstone mentor the possibility of joining the lab for research shadowing of other graduate students. Acquired lab skills should assist students with the capstone project and with future endeavors.

INDEPENDENT LEARNING

In the final semester of study students will complete a capstone course that requires an in-depth current literature research report on a relevant subject, which will serve as the independent learning experience. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biological Sciences or related area.
- Official, competitive GRE score (taken within the last five years) or MCAT score (taken within the last three years).
- Three letters of recommendation.
- A written statement of research experience, area of interest, and immediate and long-range goals.
- Resume or CV.

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE/MCAT may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a BS degree in unrelated fields are expected to have the equivalent of 16 semester hours of credit in the biological sciences including a course in general microbiology, biochemistry or molecular biology or cell biology, plus one year of organic chemistry, one year of physics, basic university mathematics and statistics, and laboratory skills equivalent to the minimum required of our own undergraduates. Minor deficiencies may be remedied after acceptance by enrollment at the first opportunity in an appropriate course.

Application Deadlines

Metabolic and Cardiovascular Sciences	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Saleh Naser PhD
Professor
Program Director
saleh.naser@ucf.edu
407-823-0955
UCF College of Medicine

Biomedical Sciences MS

Genetic Counseling

TRACK DESCRIPTION

The nonthesis Genetic Counseling track in the Biomedical Sciences MS program requires a minimum of 35 credit hours of courses that includes a capstone experience. The program addresses the need of applicants who want to further their knowledge in the areas of medical genetics and genomics, and who wish to become board certified through the American Board of Genetic Counseling and enter the clinical workforce as a genetic counselor.

CURRICULUM

Students in the Genetic Counseling track take a series of required core courses, with the remaining courses and clinical rotations relevant to Genetic Counseling. All students complete a required capstone project related to clinic Genetic Counseling.

Nonthesis students are not considered for departmental graduate assistantships or tuition assistance.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Required Core Courses—19 Credit Hours

- BSC 6432 Biomedical Sciences I (5 credit hours)
- BSC 6433 Biomedical Sciences II (5 credit hours)
- PHI 5634 Medical Ethics (3 credit hours)
- BMS 6123 Human Anatomy and Embryology (3 credit hours)
- MCB 6938 Seminar or IDS 7690 Seminar (1 credit hour, taken three semesters, to be repeated by all students)

Genetic Counseling Courses—11 Credit Hours

- BMS 6760 Introduction to Genetic Counseling 1 (1 credit hour)
- BMS 6762 Introduction to Genetic Counseling 2 (1 credit hour)
- BMS 6765 Genetic Diseases of Human Organ Systems (3 credit hours, with lab)
- BMS 6766 Inborn Errors of Metabolism (3 credit hours)
- MDE 6170 Core Clinical Rotation – Prenatal Genetics (1 credit hour)
- MDE 6171 Core Clinical Rotation – Pediatric Genetics (1 credit hour)
- MDE 6172 Core Clinical Rotation – Adult Oncology Genetics (1 credit hour)

Capstone—3 Credit Hours

- MCB 6026 Capstone Course (3 credit hours minimum)

An in-depth current literature research report in the area of Infectious Disease will be required for each student. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

The Capstone Process

Students are encouraged to contact faculty as early as possible in order to identify a faculty whose research focus complements the student's interest. The student and the mentor should select two additional faculty members to serve on the capstone evaluation committee.

Students must submit a signed Capstone Committee form to the Program Coordinator for approval as soon as the registration for the course is complete. The form must be submitted to the Program Office.

When you are ready to defend your Capstone project, you must register for the capstone course (MCB 6026) for three credit hours. It is important that the student register for the capstone course with the intention of completing the project at the end of the semester.

The Capstone Report

Evaluation of the capstone project requires a written report (in the format of a mini-review manuscript) and a presentation (project defense) in front of the capstone committee. No visitors are allowed during the capstone defense. Students may ask for advice and guidance from the project mentor/chair. The average capstone report ranges from 10 to 15 single-space pages in a manuscript format with proper citations. The student's Committee Chair will be responsible for checking the report for plagiarism using either Turnitin or iThenticate before the report is shared with the committee. The committee must receive the report at least one week before the time of presentation.

Note: The defense (presentation) must be held no later than one week before final exam week.

The Capstone Defense/Comprehensive Exam

The capstone defense and comprehensive exam evaluation is designed to assess the student's knowledge and understanding of the project and other relevant subjects in the field. Questions asked by the capstone committee to evaluate the student as competent in the field will satisfy the requirement of the comprehensive exam. The oral presentation will take place in the form of a 30-40 minute seminar and will be followed by questions and discussion.

The student will be evaluated on performance in all three sections (written report, oral presentation and ability to answer questions).

Should the student fail, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in an Unsatisfactory (U) grade in the course and dismissal from the program.

Comprehensive Examination

Students must pass an oral comprehensive exam to qualify for the Master of Science. The oral comprehensive exam tests the student's understanding of the basic concepts in the field and relevant applications. The comprehensive exam will be conducted during the capstone defense and will be administered by the capstone committee. Should the student fail this exam, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in dismissal from the program.

Teaching Requirement

Students without significant prior teaching experience, such as, but not limited to, a minimum of a year in secondary schools or colleges, are required to serve as Classroom Laboratory Assistants (CLA) for a minimum of one semester (one semester in at least one lab section).

Suggested Choreography

Year 1

Fall Semester—9 Credit Hours

- BSC 6432 Biomedical Sciences 1 (5 credit hours)
- MCB 6938 Seminar (1 credit hour)
- BMS 6123 Human Anatomy and Embryology (3 credit hours)

Spring Semester—10 Credit Hours

- BSC 6433 Biomedical Sciences II (5 credit hours)
- BMS 6765 Genetic Diseases of Human Organ Systems (3 credit hours, with lab)
- MCB 6938 Seminar (1 credit hour)
- BMS 6760 Introduction to Genetic Counseling 1 (1 credit hour)

Summer Semester—1 Credit Hour

- MDE 6170, MDE 6171, or MDE 6172 Clinical Rotation (1 credit hour each) - six weeks in one of the following rotations: Prenatal, Pediatrics, or Adult Oncology

Year 2

Fall Semester—7 Credit Hours

- BMS 6766 Inborn Errors of Metabolism (3 credit hours)
- MDE 6170, MDE 6171, or MDE 6172 Clinical Rotation 2 (1 credit hour each) - six weeks in one of the following rotations: Prenatal, Pediatrics, or Adult Oncology
- MDE 6170, MDE 6171, or MDE 6172 Clinical Rotation 3 (1 credit hour each) - six weeks in one of the following rotations: Prenatal, Pediatrics, or Adult Oncology
- BMS 6762 Introduction to Genetic Counseling 2 (1 credit hour)
- MCB 6938 Seminar (1 credit hour)

Spring Semester—6 Credit Hours

- PHI 5634 Medical Ethics (3 credit hours)
- Clinical Rotation 4 (elective) - six weeks in one of the following rotations: Prenatal, Pediatrics, or Adult Oncology (Meets second semester of Teaching/Professional development requirement (no credit)
- MCB 6026 Capstone Project in Genetic Counseling (3 credit hours)

INDEPENDENT LEARNING

In the final semester of study students will complete a capstone course that requires an in-depth current literature research report on a relevant subject, which will serve as the independent learning experience. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biological Sciences or related area.
- Official, competitive GRE score (taken within the last five years) or MCAT score (taken within the last three years).

- Three letters of recommendation.
- A written statement of research experience, area of interest, and immediate and long-range goals.
- Resume

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE/MCAT may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a BS degree in unrelated fields are expected to have the equivalent of 16 semester hours of credit in the biological sciences including a course in general microbiology, biochemistry or molecular biology or cell biology, plus one year of organic chemistry, one year of physics, basic university mathematics and statistics, and laboratory skills equivalent to the minimum required of our own undergraduates. Minor deficiencies may be remedied after acceptance by enrollment at the first opportunity in an appropriate course.

Application Deadlines

Genetic Counseling	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Saleh Naser PhD
Professor
Program Director
saleh.naser@ucf.edu
407-823-0955
UCF College of Medicine

Biomedical Sciences MS

Integrated Medical Sciences

TRACK DESCRIPTION

The non-thesis Integrated Medical Sciences Track in the Biomedical Sciences MS program is designed to prepare advance students for acceptance into medical, dental, osteopathic, and/or other related professional schools of their choice by providing them with an opportunity to take two first-year medical school courses with the medical students in combination with graduate courses in biomedical sciences.

CURRICULUM

The Integrated Medical Sciences Track in the Biomedical Sciences MS program requires a minimum of 33 credit hours of courses that includes a capstone experience. Students take 18 credit hours of required core courses including two medical school courses (5 credits each), 12 credit hours of graduate elective courses in biomedical sciences, a capstone project focusing on integrated medical sciences, and an oral comprehensive exam on the capstone project.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Nonthesis students are not considered for departmental graduate assistantships or tuition assistance.

Required Courses—18 Credit Hours

- BMS 6001 Cellular Function and Medical Genetics (HB-1, Med-Ed) (5 credit hours)
- BMS 6006 Health and Disease (HB-3, Med-Ed) (5 credit hours)
- MCB 6938 Seminar or IDS 7680 Seminar (1 credit hour, to be repeated by all students, except those taking the 7-credit option from the list below as these students will only need 1 credit of Seminar to achieve a total of 18 credits of required course work for this track)

Student take one of the following three options:

- PCB 5834C Advanced Human Physiology (4 credit hours) and PCB 5709C Laboratory Virtual Simulations in Physiology (3 credit hours) (Note: Students selecting the 7 credit option will only have to take 1 credit hour of Seminar.)
- PHT 6115C Gross Anatomy/Neuroscience I (4 credit hours) and PHT 6115L Gross Anatomy/Neuroscience I Lab (2 credit hours)
- BSC 5665 Clinical Embryology and Congenital Malformations (3 credit hours) and ZOO 5758C Vertebrate Histology (4 credit hours) (Note: Students selecting the 7 credit option will only have to take 1 credit hour of Seminar.)

Elective Courses—12 Credit Hours

Students take 12 credit hours of electives with 6 credit hours from the Biomedical Specialization and 6 credit hours from the Microbiology Specialization.

Biomedical Specialization

- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- PCB 5265 Stem Cell Biology (3 credit hours)
- PCB 5275 Signal Transduction Mechanisms (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- PCB 5709C Laboratory Virtual Simulations in Physiology (3 credit hours)
- PCB 5815 Molecular Aspects of Obesity, Diabetes, and Metabolism (3 credit hours)
- PCB 5834C Advanced Human Physiology (4 credit hours)

- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- BSC 5418 Tissue Engineering (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours)
- ZOO 5748C Clinical Neuroanatomy (5 credit hours)
- ZOO 5749C Clinical Neuroscience (5 credit hours)
- Other courses may be substituted with approval by the graduate committee.

Microbiology Specialization

- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5208 Cellular Microbiology: Host-Pathogen Interactions
- MCB 5654C Applied Industrial Microbiology (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)
- MCB 5209 Microbial Stress Response (3 credit hours)
- PCB 5235 Molecular Immunology (3 credit hours)
- Other courses may be substituted with approval by the graduate committee.

Capstone—3 Credit Hours

- MCB 6026 Capstone Course (3 credit hours minimum)

The Capstone Project for the IMS Track is customizable based on student needs. Options include the following:

- Scholarly in-depth literature review in biomedical and/or clinical sciences (report required)
- Physician-Shadowing Experience (report required)
- Service-Learning/Volunteer Work Experience (report required)
- Laboratory Research (report required)
- Other (must be pre-approved by the program coordinator/director) (report required)

The Capstone Process

Students are encouraged to contact faculty as early as possible in order to identify a faculty whose research focus complements the student's interest. The student and the mentor should select two additional faculty members to serve on the capstone evaluation committee.

Students must submit a signed Capstone Committee form to the Program Coordinator for approval as soon as the registration for the course is complete. The form must be submitted to the Program Office.

When you are ready to defend your Capstone project, you must register for the capstone course (MCB 6026) for three credit hours. It is important that the student register for the capstone course with the intention of completing the project at the end of the semester.

The Capstone Report

Evaluation of the capstone project requires a written report (in the format of a mini-review manuscript) and a presentation (project defense) in front of the capstone committee. No visitors are allowed during the capstone defense. Students may ask for advice and guidance from the project mentor/chair. The average capstone report ranges from 10 to 15 single-space pages in a manuscript format with proper citations. The student's Committee Chair will be responsible for checking the report for plagiarism using either Turnitin or iThenticate before the report is shared with the committee. The committee must receive the report at least one week before the time of presentation.

Note: The defense (presentation) must be held no later than one week before final exam week.

The Capstone Defense/Comprehensive Exam

The capstone defense and comprehensive exam evaluation is designed to assess the student's knowledge and understanding of the project and other relevant subjects in the field. Questions asked by the capstone committee to evaluate the student as competent in the field will satisfy the requirement of the comprehensive exam. The oral presentation will take place in the form of a 30-40 minute seminar and will be followed by questions and discussion.

The student will be evaluated on performance in all three sections (written report, oral presentation and ability to answer questions).

Should the student fail, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in an Unsatisfactory (U) grade in the course and dismissal from the program.

Comprehensive Examination

Students must pass an oral comprehensive exam to qualify for the Master of Science. The oral comprehensive exam tests the student's understanding of the basic concepts in the field and relevant applications. The comprehensive exam will be conducted during the capstone defense and will be administered by the capstone committee. Should the student fail this exam, a second opportunity will be provided within two weeks of the first attempt. A second failure will result in dismissal from the program.

Teaching Requirement

Students without significant prior teaching experience, such as, but not limited to, a minimum of a year in secondary schools or colleges, are required to serve as Classroom Laboratory Assistants (CLA) for a minimum of one semester (one semester in at least one lab section).

Research Shadowing (Optional)

Students are encouraged to discuss with their capstone mentor the possibility of joining the lab for research shadowing of other graduate students. Acquired lab skills should assist students with the capstone project and with future endeavors.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biological Sciences or related area.
- Official, competitive GRE score (taken within the last five years) or MCAT score (taken within the last three years).
- Three letters of recommendation.
- A written statement of research experience, area of interest, and immediate and long-range goals.
- Resume

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE/MCAT may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a BS degree in unrelated fields are expected to have the equivalent of 16 semester hours of credit in the biological sciences including a course in general microbiology, biochemistry or molecular biology or cell biology, plus one year of organic chemistry, one year of physics, basic university mathematics and statistics, and laboratory skills equivalent to the minimum required of our own undergraduates. Minor deficiencies may be remedied after acceptance by enrollment at the first opportunity in an appropriate course.

Application Deadlines

Integrated Medical Sciences	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Dec 15	Dec 15		
International Applicants	Dec 15	Dec 15		
International Transfer Applicants	Dec 15	Dec 15		

CONTACT INFO

Steven Ebert PhD
Associate Professor
Program Director
steven.ebert@ucf.edu
407-266-7047
BBS 421

Biotechnology MS

- Professional Science Master's

PROGRAM DESCRIPTION

The Master of Science in Biotechnology program in the College of Medicine will prepare students to function in the industrial biotechnology environment. This program is designed to give students broad knowledge and training in the scientific and practical aspects of biotechnology.

It involves innovative, hands-on and multidisciplinary learning approaches to educate and train students in scientific aspects of biotechnology. The courses and research training required of all students in this program are designed to develop independent thinking, team work and communication skills, which are highly desirable in the biotechnology industry. Students will be provided an industrial perspective and an understanding of product development at the same time as they are trained in the biotechnology techniques required for such development.

CURRICULUM

The Master of Science in Biotechnology program consists of a minimum of 30 semester credit hours of graduate courses offered by the Burnett School of Biomedical Sciences in the College of Medicine that includes 21 credit hours minimum of required courses, 3 credits of restricted electives, and 6 credit hours of thesis research as detailed below.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

What makes this program unique is the focus on practical training offered to graduate students through master's thesis research in molecular biotechnology to perform jobs in laboratory environment that require scientific talent.

Required Courses—21 Credit Hours Minimum

Core—19 Credit Hours Minimum

Students must take the following courses plus at least two credit hours of graduate seminar.

- MCB 5722C Methods in Biotechnology (4 credit hours) or BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- BSC 6432 Structure-Function-Relationships of Biomedical Sciences I (5 credit hours)
- BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hours)
- BSC 6431 Practice of Biomedical Sciences (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours) or one of the following: BSC 5418 Tissue Engineering (3 credit hours), MCB 6417C Microbial Metabolism (3 credit hours), PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)

Graduate Seminars—2 Credit Hours

Students will participate in at least two graduate seminar courses that will prepare them for making professional presentations with emphasis in biotechnology. The courses will involve participation of speakers from the biotechnology industry with emphasis on an industrial perspective on biotechnology applications and product development.

- MCB 5314 Industrial Perspectives Seminar (1 credit hour) or MCB 6938 (1 credit hour,1 semester only)

Elective Courses—3 Credit Hours

Students will select three credit hours of restricted electives from the list below.

- BSC 5418 Tissue Engineering (3 credit hours)
- BSC 5436 Biomedical Informatics: Structure Analysis (3 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5208 Cellular Microbiology: Host-Pathogen Interactions (3 credit hours)
- MCB 5209 Microbial Stress Response (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 5722C Methods in Biotechnology (4 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)
- PCB 5236 Tumor Biology (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5596 Biomedical Informatics: Sequence Analysis (3 credit hours)
- PCB 5709C Laboratory Virtual Simulations in Physiology (2 credit hours)
- PCB 5834C Advanced Human Physiology (4 credit hours)
- PCB 5937 Special Topics: Human Endocrinology (3 credit hours)
- PCB 6528 Plant Molecular Biology (3 credit hours)
- PCB 6595 Regulation of Gene Expression (3 credit hours)
- PCB 5838 Cellular and Molecular Basis of Brain Functions (3 credit hours)
- PCB 5265 Stem Cell Biology (3 credit hours)
- PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)
- PCB 5815 Molecular Aspects of Obesity, Diabetes and Metabolism (3 credit hours)
- ZOO 5745C Essentials of Neuroanatomy (4 credit hours)
- ZOO 5748C Clinical Neuroanatomy (5 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours)
- Others: If approved by the Graduate Committee

Thesis—6 Credit Hours

Students will take a minimum of six credits of thesis research (MCB 6971) to complete their research and submit their thesis specializing in biotechnology research. Students are expected to have an in-depth discussion with at least three faculty members before choosing a laboratory for thesis research. The student and the Thesis Adviser/Major Professor will jointly recommend an advisory committee comprised of at least three members. The committee composition must reflect expertise relevant to the student's thesis research and must be approved by the Graduate Committee. Students switching to change the composition of the Thesis Advisory Committee must also obtain approval from the Graduate Committee.

Thesis Proposal

The thesis proposal defense requirement should be met and passed successfully no later than the end of the summer of the first year in the program. Students will not be allowed to register for courses for the Fall semester of their second year until this requirement is fulfilled. The Thesis Proposal requirement includes: 1) a written 5-page thesis proposal; 2) a thesis proposal defense in front of the thesis committee; and 3) questions by the thesis committee to test the student's understanding of the basic concepts in the field and relevant applications. The student will be evaluated on performance in all three sections. Should the student fail, a second opportunity will be provided within 2 weeks of the first attempt. A second failure will result in dismissal from the program.

An oral thesis defense is required. The defense will be in the format of:

- A 50-minute presentation of the thesis work, including a 5-minute introduction
- A 10-minute free period for the general audience to ask questions
- A 1-hour closed-door examination by the Thesis Advisory Committee and the program faculty present

The thesis should be of significant scope and depth such that the work has made advances in the area of biotechnology. The MS thesis research must generate sufficient quantity and quality data to support the submission of a minimum of one manuscript. Approval of the final thesis will require consent from the majority of the Program Faculty who choose to review the thesis, inclusive of the Thesis Advisory Committee. Faculty members with dissenting vote on the thesis must provide written justification. Scientific journal review criteria will be used as guidelines by the faculty to evaluate the final thesis for its appropriateness for publication in the target journal.

Students will be evaluated on the progress in thesis research by the thesis advisory committee for fall and spring. Two consecutive unsatisfactory evaluations will result in dismissal from the program.

Comprehensive Examination

Students must pass a comprehensive exam to qualify for the Master of Science degree.

Students must successfully pass an oral comprehensive examination to test the understanding of the basic concepts in the field and relevant applications. The Comprehensive Examination will be conducted during the thesis proposal defense. The exam will be administered by the thesis committee. Should the student fail this exam, a second opportunity will be provided within 2 weeks of the first attempt. A second failure will result in dismissal from the program.

INDEPENDENT LEARNING

The required thesis allows the student to engage in independent learning.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a bachelor's degree in life sciences, three letters of recommendation, and a written statement of research experience, area of interest, and immediate long range goals.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biological Sciences or related area.
- Official, competitive GRE score (taken within the last five years).
- Three letters of recommendation.
- A written statement of research experience, area of interest, and immediate and long-range goals.
- Resume or CV

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a BS degree in unrelated fields are expected to have the equivalent of 16 semester hours of credit in the biological sciences including a course in general microbiology, biochemistry or molecular biology or cell biology, plus one year of organic chemistry, one year of physics, basic university mathematics and statistics, and laboratory skills equivalent to the minimum required of our own undergraduates. Minor deficiencies may be remedied after acceptance by enrollment at the first opportunity in an appropriate course.

Application Deadlines

Biotechnology MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Saleh Naser PhD
Professor
Program Director
saleh.naser@ucf.edu
407-823-0955
UCF College of Medicine

Biotechnology MS

Professional Science Master's

TRACK DESCRIPTION

The Professional Science Master's in Biotechnology in the College of Medicine will prepare students with practical training through biotechnology laboratory courses and an internship in a laboratory environment that requires understanding of scientific concepts.

The program is designed for individuals who desire to work in health and science-based professions or government careers, where workforce needs are increasing. Students have the option to obtain a Graduate Certificate in Technology Ventures.

CURRICULUM

Total Credit Hours Required:

42 Credit Hours Minimum beyond the Bachelor's Degree

The Professional Science Master's (PSM) track in Biotechnology consists of 42 credit hours of graduate courses offered by the Burnett School of Biomedical Sciences in the College of Medicine, including 15 credit hours of required courses and graduate seminar, 9 credit hours of restricted electives, 12 credit hours of professional content courses, and 6 credit hours of an internship as detailed below.

What makes this program unique is the focus on practical training offered to graduate students through biotechnology laboratory courses and internship in a laboratory environment that requires understanding of scientific concepts. The program is designed for individuals who desire to work in health and science-based professions or government careers, where workforce needs are increasing.

Students have the option to obtain a Graduate Certificate in Technology Ventures.

Required Courses—15 Credit Hours Minimum

Core—13 Credit Hours Minimum

- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- BSC 6431 Practice of Biomedical Sciences (3 credit hours)
- MCB 5722C Methods in Biotechnology (4 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours) or one of the following: BSC 5418 Tissue Engineering (3 credit hours), MCB 6417C Microbial Metabolism (3 credit hours), PCB 5025 Molecular and Cellular Pharmacology (3 credit hour)

Graduate Seminar—2 Credit Hours

Students will participate in at least two graduate seminar courses. These seminar courses will prepare students for making professional presentations with emphasis in biotechnology and will involve participation of speakers from the biotechnology industry, with emphasis on an industrial perspective on biotechnology applications and product development.

- MCB 5314 Industrial Perspectives Seminar (1 credit hour minimum) or MCB 6938 (1 credit hour, 1 semester only)

Elective Courses—9 Credit Hours

Students will select 9 credit hours of restricted electives from the list below.

- BSC 5418 Tissue Engineering (3 credit hours)
- BSC 5436 Biomedical Informatics: Structure Analysis (3 credit hours)
- CHS 6535 Forensic Molecular Biology (3 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6536 Forensic Analysis of DNA Data (2 credit hours)
- GEB 5516 Technological Commercialization (3 credit hours)
- MCB 5205 Infectious Processes (3 credit hours)
- MCB 5209 Microbial Stress Response (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- MCB 5415 Cellular Metabolism (3 credit hours)
- MCB 5505 Molecular Virology (3 credit hours)
- MCB 5654 Applied Microbiology (3 credit hours)
- MCB 5932 Current Topics in Molecular Biology (3 credit hours)
- MCB 6226 Molecular Diagnostics (3 credit hours)
- MCB 6417C Microbial Metabolism (3 credit hours)
- PCB 5236 Tumor Biology (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5275 Signal Transduction Mechanisms (3 credit hours)
- PCB 5527 Genetic Engineering and Biotechnology (3 credit hours)
- PCB 5596 Biomedical Informatics: Sequence Analysis (3 credit hours)
- PCB 5834C Advanced Human Physiology (4 credit hours)
- PCB 5709C Laboratory Virtual Simulations in Physiology (2 credit hours)
- PCB 5937 Special Topics: Human Endocrinology (3 credit hours)
- PCB 6528 Plant Molecular Biology (3 credit hours)
- PCB 5838 Cellular and Molecular Basis of Brain Functions (3 credit hours)
- PCB 5265 Stem Cell Biology (3 credit hours)
- PCB 5025 Molecular and Cellular Pharmacology (3 credit hours)
- PCB 5815 Molecular Aspects of Obesity, Diabetes and Metabolism (3 credit hours)
- ZOO 5745C Essentials of Neuroanatomy (4 credit hours)
- Others: If approved by Graduate Committee

Professional Courses—12 Credit Hours

Students are required to take 12 credit hours from the following courses to better equip them to administer the business aspects of biotechnology programs and laboratories.

- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- COM 6145 Organizational Communication (3 credit hours)
- COM 6046 Interpersonal Communication (3 credit hours)
- ENC 5237 Writing for the Business Professional (3 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- MAR 6466 Strategic Supply Chain Management (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6397 Managing Emergencies and Crises (3 credit hours)
- GEB 6115 Entrepreneurship (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours) *
- GEB 6518 Strategic Innovation (3 credit hours) *
- GEB 6116 Business Plan Formation (3 credit hours) (PR: GEB 6115 or GEB 6518) *
- Others (Must be approved by Program Coordinator)

Students who successfully complete the three GEB courses designated with an asterisk mark (*) are eligible to receive the 9-credit-hour Graduate Certificate in Technology Ventures. These three courses focus on the successful development of the knowledge and skills needed to commercialize science and technology research. Those students interested in business opportunities enabled by scientific and technological innovations will find the coursework involving intellectual property issues, innovation commercialization processes, technology business strategies and business plan formation invaluable to their success.

Students desiring to obtain the Graduate Certificate in Technology Ventures **must** apply for the certificate program prior to enrolling in the third GEB course in order to be awarded the graduate certificate.

Internship— 6 Credit Hours

- MCB 6946 (6 credit hours)

Internship is a key element of the Biotechnology PSM Program. This program is designed to give students hands-on experience in the Biotechnology industry setting, while making professional connections for the future. There are a variety of internship opportunities for students to be placed with biotechnology companies, state and federal agencies, or nonprofit organizations. Upon the conclusion of the internship, the student must submit a report signed by the Internship Supervisor/Faculty Adviser. Students will take a minimum of six credits of internship to complete their studies in a biotechnology setting.

Additionally, all students pursuing the Professional Science Master's must enroll in the following course:

- IDS 5949 Co-op Ed/Work Experience (0 credit hours)

Students must register for IDS 6946 and IDS 5949 simultaneously. Students must complete the course with a satisfactory (S) grade. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a bachelor's degree in life sciences, three letters of recommendation, and a written statement of research experience, area of interest, and immediate and long-range goals.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Biological Sciences or related area.
- Official, competitive GRE score (taken within the last five years) or MCAT score (taken within the last three years).
- Three letters of recommendation.
- A written statement of research experience, area of interest, and immediate and long-range goals.
- Resume or CV.

Personal interviews are helpful but not required. Applicants who do not have a competitive GPA or GRE/MCAT may occasionally be accepted if there is other convincing evidence of potential for high achievement and success.

Applicants who hold a BS degree in unrelated fields are expected to have the equivalent of 16 semester hours of credit in the biological sciences including a course in general microbiology, biochemistry or molecular biology or cell biology, plus one year of organic chemistry, one year of physics, basic university mathematics and statistics, and laboratory skills equivalent to the minimum required of our own undergraduates. Minor deficiencies may be remedied after acceptance by enrollment at the first opportunity in an appropriate course.

Application Deadlines

Professional Science Master's	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	May 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Saleh Naser PhD
Professor
Program Director
saleh.naser@ucf.edu
407-823-0955
UCF College of Medicine

Business Administration MBA

- Evening
- Executive
- 1 Year, Full-Time Program
- Professional

PROGRAM DESCRIPTION

The College of Business Administration offers a Master of Business Administration (MBA) degree with three options for study: a part-time Evening MBA offered on the main campus; a Professional Part-Time MBA and Professional Full-Time MBA at regional campuses and downtown; and an Executive MBA at the Executive Development Center in downtown Orlando. The UCF MBA degree is accredited by AACSB International.

The MBA program allows students to apply advanced theoretical concepts and knowledge from all functional areas of business through an analytical, decision-making process that focuses on solving practical problems. Students in the MBA program also learn to efficiently access, retrieve, and analyze information through technology.The program promotes the use of networking, leadership, and interpersonal competencies to develop and sustain effective relationships with peers, and to create an appreciation for the value of a diverse workforce.

CURRICULUM

The Master’s in Business Administration requires a total of 39 credit hours, of which 30 credit hours are professional core courses and 9 credit hours are electives. Internship options are available for the Evening MBA track.

Total Credit Hours Required:

39 Credit Hours Minimum beyond the Bachelor's Degree

The MBA curriculum provides a challenging and creative learning environment in an intensive program of study that has a broad-based administrative emphasis. Recognizing that the management methods of tomorrow may bear little resemblance to techniques in current use, the program emphasizes sound general principles and decision-making techniques that provide a base for continued learning and professional development.

Foundation Preparation

To help prepare you for the start of your MBA program, UCF offers online learning modules in accounting, economics, finance, and business statistics. These can be purchased individually or as a set and are designed to help you build the foundational knowledge needed to succeed in the MBA program at UCF. They are offered through McGraw-Hill's Connect online learning management system and when purchased, are available to you for your entire tenure in the MBA program as reference material. For information on the initial assessment, learning modules and how to use McGraw-Hill's Connect online learning management system visit connect.customer.mheducation.com/student-start/ or email cbagrad@ucf.edu.

Required Courses—30 Credit Hours

The MBA professional core consists of advanced course work that substantially extends and applies knowledge developed in the student's undergraduate degree and career. In addition to the 30 required credit hours, the MBA program also requires the student to take three elective courses (9 credit hours). The MBA program does not require a thesis or comprehensive exam.

MBA Professional Core I: Decision-Making Tools—18 Credit Hours

- BUL 6444 Law and Ethics (3 credit hours)*
- ECO 6416 Applied Business Research Tools (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- ACG 6425 Managerial Accounting Analysis (3 credit hours)*
- ECO 6115 Economic Analysis of the Firm (3 credit hours)
- MAR 6466 Strategic Supply Chain Management (3 credit hours)

* Students who wish to sit for the CPA exam may substitute appropriate coursework for these courses.

MBA Professional Core II: Decision Applications—12 Credit Hours

Core I is a prerequisite for Core II courses.

- MAR 6816 Strategic Marketing Management (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- GEB 6365 International Business Analysis (3 credit hours)
- MAN 6721 Applied Strategy and Business Policy (grade of B- or better is required in this course) (3 credit hours)

MBA Electives—9 Credit Hours

The MBA requires 9 hours of electives. Unrestricted business electives may include any 5000 or 6000 level business course. Restricted electives include a maximum of two courses or 6 credit hours taken outside the College of Business Administration **with permission from the Graduate Business Programs Office prior to taking the course.**

Please see individual MBA tracks for elective options.

Certain Evening MBA business elective courses may also count toward Business Certificate credit, if the student has been admitted to an appropriate certificate program.

Capstone Course

The MBA's capstone course, MAN 6721 Applied Strategy and Business Policy, is required for all MBA students. This capstone course integrates the various functional disciplines in business administration. It focuses on the theories and frameworks in the field of strategic management. The minimum passing grade for MAN 6721 is a B-.

Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different admission requirements, start dates and deadlines.Applicants must choose a track in this program. Track(s) may have different admission requirements, start dates and deadlines.

Business Administration MBA

Evening

TRACK DESCRIPTION

The program promotes the use of networking, leadership, and interpersonal competencies to develop and sustain effective relationships with peers, and to create an appreciation for the value of a diverse workforce.

The Evening MBA begins in the fall term only. Program highlights include:

- Evening course offerings to accommodate working professionals
- Choice of elective options outside of the College of Business
- Potential certificate or internship options
- Part-time only enrollment

CURRICULUM

Total Credit Hours Required:

39 Credit Hours Minimum beyond the Bachelor's Degree

The Evening MBA is targeted toward applicants who wish to obtain a MBA degree while continuing in their career path. This program offers evening courses. Students may attend on a part-time basis only, taking 6 credit hours per term.

Foundation Preparation

To help prepare you for the start of your MBA program, UCF offers online learning modules in accounting, economics, finance, and business statistics. These can be purchased individually or as a set and are designed to help you build the foundational knowledge needed to succeed in the MBA program at UCF. They are offered through McGraw-Hill's Connect online learning management system and when purchased, are available to you for your entire tenure in the MBA program as reference material. For information on the initial assessment, learning modules and how to use McGraw-Hill's Connect online learning management system visit connect.customer.mheducation.com/student-start/ or email cbagrad@ucf.edu.

Required Courses—30 Credit Hours

The MBA professional core consists of advanced course work that substantially extends and applies knowledge developed in the student's undergraduate degree and career, with decision-making tools courses and decision-application courses. In addition to the 30 required credit hours, the MBA program also requires the student to take three elective courses (9 credit hours). The MBA program does not require a thesis or comprehensive exam.

MBA Professional Core I: Decision-Making Tools—18 Credit Hours

- BUL 6444 Law and Ethics* (3 credit hours) Fall
- ECO 6416 Applied Business Research Tools (3 credit hours) Fall
- MAN 6245 Organizational Behavior and Development (3 credit hours) Fall
- ACG 6425 Managerial Accounting Analysis* (3 credit hours) Spring
- ECO 6115 Economic Analysis of the Firm (3 credit hours) Spring
- MAR 6466 Strategic Supply Chain Management (3 credit hours) Spring

* Students who wish to sit for the CPA exam may substitute appropriate course work for these courses.

MBA Professional Core II: Decision Applications—12 Credit Hours

Core I is a prerequisite for Core II courses.

- MAR 6816 Strategic Marketing Management (3 credit hours) Fall
- FIN 6406 Strategic Financial Management (3 credit hours) Fall
- GEB 6365 International Business Analysis (3 credit hours) Spring
- MAN 6721 Applied Strategy and Business Policy (grade of B- or better is required in this course) (3 credit hours) Spring

MBA Electives—9 Credit Hours

Unrestricted business electives may include any 5000- and 6000-level business courses. Restricted electives include a maximum of two courses or 6 credit hours taken outside the College of Business Administration **with permission from the Graduate Business Programs Office prior to taking the course.**

Internships of up to a maximum of 6 credit hours may be used as elective credit, if approved by the Graduate Business Programs Office. All internships must be pre-approved by the academic business department Internship Coordinator and the Graduate Business Programs Office. Certain MBA business elective courses may also count toward Business certificate credit, if the student has been admitted to an appropriate certificate program.

Check all elective course prerequisites in the graduate catalog at www.graduatecatalog.ucf.edu.

Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a "B-" (2.75) will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

Part-Time Lockstep MBA Schedule

All Core I courses must be completed prior to Core II courses, and the capstone course for the program (MAN 6721) must be taken in the final semester of Core II courses.

Core I courses in the first and second fall semesters can be interchanged between the two terms. Core I courses in the first and second spring semesters can be interchanged between the two terms.

Fall: ECO 6416 and MAN 6245
Spring: ECO 6115 and ACG 6425
Summer: elective
Fall: BUL 6444 and elective
Spring: MAR 6466 and elective
Fall: MAR 6816 and FIN 6406
Spring: MAN 6721 and GEB 6365

Any variance from this course schedule may delay graduation.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required; however, it may be in the applicant's interest to include a GMAT score to strengthen their application packet.
- Three professional and/or academic letters of recommendation.
- Prepare a career goal statement explaining why you want to earn an MBA degree; why you believe this is the right time for you to pursue an MBA degree; and why you selected UCF.
- Upload your current resume to your application before submitting. You must show at least two years of equivalent full-time professional work experience, and detail your duties and responsibilities.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign Language (TOEFL) is required if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program who have attended a college/university outside the United States must provide a credential evaluation showing an equivalent bachelor's degree in the U.S. A course-by-course evaluation must be provided, with a GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Prior to starting the classes in the MBA program, students may be required to complete a free online assessment in the functional areas of accounting, economics, finance and statistics. A score of 70% or higher in each section will be required in order to enroll in the associated graduate classes. Students who do not earn a 70% or higher in each section may be required to do one of the following: complete online modules in one or more of the four functional areas of accounting, economics, statistics and finance; or retake the assessment to achieve the required 70% score needed in each section to enroll in the associated graduate class.

Application Deadlines

Evening	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 1		
International Applicants				
International Transfer Applicants				

CONTACT INFO

Kelley Rasgaitis
College Staff
cbagrad@bus.ucf.edu
407-235-3916
DTC 201A

Business Administration MBA

Executive

TRACK DESCRIPTION

The program is a limited enrollment, cohort based program that allows participants to continue their full-time careers while earning an MBA degree.

- 19-month program offered in downtown Orlando
- Limited class size, cohort program
- Classes meet one Friday and three Saturdays a month, 8:00 a.m.-5:00 p.m.
- Ten-day International Residency
- Minimum of five years of work experience required; average is fifteen years
- Personal interview required for admission

Courses expose participants to new methods, concepts, and tools that will enhance their business and leadership skills. Innovative teaching methodologies such as team-based projects, interdisciplinary case studies, simulations, debate activities, and self-assessment exercises are used to enhance the learning experience. The EMBA also incorporates the interactions and backgrounds of the participants as an integral part of the learning experience.

All classes are held at the UCF Executive Development Center in Downtown Orlando. Our executive classrooms are specifically designed to provide the best in learning environments. The handicap accessible classrooms boast the latest in audio/video equipment and each seat has electrical hookup and wireless Internet access. With newly engineered acoustics, lighting and room design, every seat has an excellent view of the speaker and presentation. The UCF Executive MBA program has created the finest combination of skilled administrators, and an executive classroom environment with leading faculty providing participants with a high level of personal attention from the moment they apply.

This program is a professional program with a market rate tuition, and is considered a full-time program.The tuition is the same for Florida residents and nonresidents. Please visit business.ucf.edu/degree/ucf-mba/ for more information.

CURRICULUM

The UCF Executive MBA (EMBA) is the college's flagship MBA program. The EMBA program is designed to prepare executives and managers for the challenges they will face as they work and advance in their careers, teaching them skills across all functional areas of business that will make them an increasingly valuable member of their organization. Courses expose participants to new methods, concepts and tools that will enhance their business and leadership skills. The EMBA also incorporates the interactions and backgrounds of the participants as an integral part of the learning experience.

Total Credit Hours Required:

39 Credit Hours Minimum beyond the Bachelor's Degree

Foundation Preparation

To help prepare you for the start of your MBA program, UCF offers online learning modules in accounting, economics, finance, and business statistics. These can be purchased individually or as a set and are designed to help you build the foundational knowledge needed to succeed in the MBA program at UCF. They are offered through McGraw-Hill's Connect online learning management system and when purchased, are available to you for your entire tenure in the MBA program as reference material. For information on the initial assessment, learning modules and how to use McGraw-Hill's Connect online learning management system
visit connect.customer.mheducation.com/student-start/ or email cbagrad@ucf.edu.

Required Courses—30 Credit Hours

- ECO 6115 Economic Analysis of the Firm (3 credit hours)
- ACG 6425 Managerial Accounting Analysis (3 credit hours)
- ECO 6416 Applied Business Research Tools (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAR 6816 Strategic Marketing Management (3 credit hours)
- MAR 6466 Strategic Supply Chain and Operations Management (3 credit hours)
- BUL 6444 Law and Ethics (3 credit hours)
- GEB 6365 International Business Analysis (3 credit hours)
- MAN 6721 Applied Strategy and Business Policy (3 credit hours)

Elective Courses—9 Credit Hours

- FIN 6465 Financial Analysis Seminar (3 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)

- MAN 6296 Executive Leadership (3 credit hours)

International Residency

As part of the GEB 6365, International Business Analysis course, EMBA students are required to participate in a 10 day international residency. The trip destination is determined by the students through a series of votes, and takes place during the 4th semester in the program. Typically the trip includes 2 countries with visits to local and multinational companies, and immersion into the countries culture.

Capstone Course

The MBA's capstone course, MAN 6721, Applied Strategy and Business Policy, is required for all MBA students. This capstone course integrates the various functional disciplines in business administration. It focuses on the theories and frameworks in the field of strategic management, and requires a minimum grade of B-.

Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide a bachelor's degree from an accredited university, three letters of recommendation, an essay, and a résumé showing a minimum of 5 years professional work experience; applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required, however, the Admissions Committee may ask for the GMAT to strengthen a candidate's application packet.
- Three professional letters of recommendation or three e-mail addresses of recommenders.
- Prepare a career goal statement explaining why you want to earn an MBA degree; why you believe this is the right time for you to pursue an MBA degree; and why you selected UCF.
- Résumé showing a minimum of 5 years of full-time, progressive, work experience.
- Interview. Applicant will be contacted to schedule an interview after the application is complete.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) is required if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

- Applicants applying to this program whose completed bachelor's degree is from a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Early application tuition discounts are available for this program. To view early application discount deadlines, and for more information, visit the Executive Development Center website at www.ucfmba.ucf.edu.

Prior to starting the classes in the MBA program, students may be required to complete a free online assessment in the functional areas of accounting, economics, finance and statistics. A score of 70% or higher in each section will be required in order to enroll in the associated graduate classes. Students who do not earn a 70% or higher in each section may be required to do one of the following: complete online modules in one or more of the four functional areas of accounting, economics, statistics and finance; or retake the assessment to achieve the required 70% score needed in each section to enroll in the associated graduate class.

Application Deadlines

Executive	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 1		
International Applicants		Jan 15		
International Transfer Applicants		Mar 1		

CONTACT INFO

Robin Hofler
Program Staff
mba@bus.ucf.edu
407-235-3913
DTC 201B

Business Administration MBA

1 Year, Full-Time Program

TRACK DESCRIPTION

NOTE: This track has been suspended and is not accepting applications effective with the Fall 2014 term.

The One-Year Full-Time MBA is a 12-month program designed as a bridge for students with **non-business degrees** to transition into the business world. This program can also be a valuable experience for seasoned professionals to change career paths or enhance their business acumen. The One-Year Full-Time MBA begins in the Fall term only and is taught in a cohort group format. Internships are available as electives.

CURRICULUM

Total Credit Hours Required:

39 Credit Hours Minimum beyond the Bachelor's Degree

The One-Year, Full-Time MBA required classes are offered only during the daytime, and students complete the program as a group. Qualified students with a non-business undergraduate degree are accepted in order of application date up to the program limit. Minimum admission requirements for this program include a competitive GMAT score taken within the last five years and a competitive GPA in the student's undergraduate program.

Program highlights include:

- Full-time, 12-month program
- Cohort group
- Open to non-business undergraduate majors only
- No work experience requirement
- Internship opportunities for experience
- Certificate options
- Choice of career path elective options

Foundation Preparation

To help prepare you for the start of your MBA program, UCF offers online learning modules in accounting, economics, finance, and business statistics. These can be purchased individually or as a set and are designed to help you build the foundational knowledge needed to succeed in the MBA program at UCF. They are offered through McGraw-Hill's Connect online learning management system and when purchased, are available to you for your entire tenure in the MBA program as reference material. For information on the initial assessment, learning modules and how to use McGraw-Hill's Connect online learning management system visit http://connect.customer.mheducation.com/student-start/ or email cbagrad@ucf.edu.

One Year Schedule to Degree—39 Credit Hours

The schedule below contains both 30 credit hours of professional core courses and 9 credit hours of electives. The professional core consists of advanced course work that substantially extends and applies knowledge developed in the foundation core, using both decision-making tools courses and decision-applications courses. The electives may include Internship and/or course options.

Fall—15 Credit Hours

- MAR 6466 Strategic Supply Chain Management (3 credit hours)
- ECO 6416 Applied Business Research Tools (3 credit hours)
- ECO 6115 Economic Analysis of the Firm (3 credit hours)
- ACG 6425 Managerial Accounting Analysis (3 credit hours)
- Elective or Internship Course GEB 6946 (3 credit hours)

Spring—15 Credit Hours

- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAR 6816 Strategic Marketing Management (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- BUL 6444 Law & Ethics (3 credit hours)
- Elective and/or Internship Course GEB 6946 (3 credit hours)

Summer—9 Credit Hours

- GEB 6365 International Business Analysis (3 credit hours)
- MAN 6721 Applied Strategy and Business Policy (grade of B- or better is required in this course) (3 credit hours)
- Elective and/or Internship Course GEB 6946 (3 credit hours)

Electives

Unrestricted business electives include any 5000- and 6000-level business courses, excluding all 6000-level MBA foundation courses. Restricted electives include a maximum of two courses or 6 credit hours taken outside the College of Business Administration with prior approval from the Graduate Business Programs Office. Internships up to a maximum of 6 credit hours may also be used as elective credits. Certain business electives can count toward certificate credit if the student is enrolled in an appropriate certificate program.

Internship

Begin your internship search immediately following your admission by submitting your resume to the Career Connections Office. Contact the office at (407) 823-JOBS or cc@bus.ucf.edu. To receive 3 credit hours of internship credit (GEB 6946), you must have your internship approved by the Career Connections Office and submit academic paperwork while completing the required 288 work hours per 3-hour credit. For term approval deadlines, please contact the Career Connections Office.

Job Placement

Full-time job placement is managed out of the Career Connections Office.

Four Semester Option—9 Credit Hours

Follow the current One Year MBA course schedule for fall, spring and summer and use the following fall term to complete your internship or electives. If you choose this option, you will be able to walk with the One Year MBA students at the summer graduation ceremony, and then receive your diploma after you complete the fall semester.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GMAT score taken within the last five years.
- Three professional letters of recommendation.
- Essay (for details, see http://web.bus.ucf.edu/students/graduate/?page=302).
- Résumé.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

1 Year, Full-Time Program	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				
International Transfer Applicants				

CONTACT INFO

Kelley Rasgaitis
College Staff
cbagrad@bus.ucf.edu
407-235-3916
DTC 201A

Business Administration MBA

Professional

TRACK DESCRIPTION

The Professional MBA (PMBA) provides the perfect business foundation for working professionals who wish to earn an MBA degree accredited by AASCB International. The PMBA combines the rigor and depth of a traditional MBA program with the applicability and cohort experience of a professional program. For more detailed program information, please visit our website at business.ucf.edu/degree/ucf-mba/.

The PMBA offers two scheduling options: students can attend part-time in the evening for 24 months so as not to interrupt their full-time career, or they can attend full-time during the day for 12 months.

- 24-month or 12-month option
- Minimum 3 years of work experience required for the 24-month PMBA
- Minimum 1-3 years of work experience required with a letter of support from employer for 12-month PMBA, or earned graduate degree, or currently enrolled graduate student
- Limited class size, cohort program
- Innovative curriculum (consultative and case-based applied approach)
- Personal interview required for admission

The 24-month PMBA is offered at the Executive Development Center in downtown Orlando each summer, and regional campus locations on a rotational basis most fall terms. The 12-month PMBA is also offered at the Executive Development Center in downtown Orlando each fall. Because the PMBA is not held on the UCF main campus, it brings the utmost convenience to working professionals in Brevard, Orange, Osceola, Seminole and Volusia counties, as well as other counties in the Greater Orlando region. The program allows a limited-size group of professionals from a variety of organizations and industries to come together and challenge their intellect, enhance their capabilities and broaden their perspectives while growing their professional network.

The innovative curriculum equips program participants with the analytical tools, latest business techniques and skills needed to succeed in today's competitive marketplace while honing their business knowledge, teamwork, critical thinking and decision making skills. The program seamlessly integrates their professional experience allowing them to immediately apply newly-acquired knowledge on the job. The renowned PMBA faculty members who share their expertise and provide insights on real-world business issues use consultative teaching approaches combining lectures, case studies, discussion forums and presentations to maximize learning. Participants will also find a high level of personal attention from PMBA administrators from the moment they apply.

This program is a professional program with a market rate tuition.The tuition is the same for Florida residents and non-residents. Please visit business.ucf.edu/degree/ucf-mba/ for more information.

CURRICULUM

The Professional MBA (PMBA) provides the perfect business foundation for working professionals who wish to earn an MBA degree without interrupting their full-time career. The innovative curriculum equips program participants with the analytical tools, latest business techniques and skills needed to succeed in today's competitive marketplace while honing their business knowledge, teamwork, critical thinking and decision making skills. The program seamlessly integrates their professional experience allowing them to immediately apply newly-acquired knowledge on the job.

Total Credit Hours Required:

39 Credit Hours Minimum beyond the Bachelor's Degree

Foundation Preparation

To help prepare you for the start of your MBA program, UCF offers online learning modules in accounting, economics, finance, and business statistics. These can be purchased individually or as a set and are designed to help you build the foundational knowledge needed to succeed in the MBA program at UCF. They are offered through McGraw-Hill's Connect online learning management system and when purchased, are available to you for your entire tenure in the MBA program as reference material. For information on the initial assessment, learning modules and how to use McGraw-Hill's Connect online learning management system visit connect.customer.mheducation.com/student-start/ or email cbagrad@ucf.edu.

Required Courses—30 Credit Hours

- ECO 6115 Economic Analysis of the Firm (3 credit hours)

- ACG 6425 Managerial Accounting Analysis (3 credit hours)
- ECO 6416 Applied Business Research Tools (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAR 6816 Strategic Marketing Management (3 credit hours)
- MAR 6466 Strategic Supply Chain and Operations Management (3 credit hours)
- BUL 6444 Law and Ethics (3 credit hours)
- GEB 6365 International Business Analysis (3 credit hours)
- MAN 6721 Applied Strategy and Business Policy (3 credit hours)

Elective Courses—9 Credit Hours

- FIN 6465 Financial Analysis Seminar (3 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAN 6296 Executive Leadership (3 credit hours)

Capstone Course

The MBA's capstone course, MAN 6721 Applied Strategy and Business Policy, is required for all MBA students. This capstone course integrates the various functional disciplines in business administration. It focuses on the theories and frameworks in the field of strategic management, and requires a minimum grade of B-.

Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide a bachelor's degree from an accredited university, three letters of recommendation, an essay, and a résumé showing a minimum of 3 years of professional work experience; applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required, however, the Admissions Committee may ask for the GMAT to strengthen a candidate's application packet.
- Three professional and/or academic letters of recommendation or three e-mail addresses of recommenders.
- Prepare a career goal statement explaining why you want to earn an MBA degree; why you believe this is the right time for you to pursue an MBA degree; and why you selected UCF.
- Résumé showing a minimum of 1 or 3 years of full-time, progressive, work experience.
- Interview. Applicant will be contacted to schedule an interview after application is complete.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) is required if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program whose completed bachelor's degree is from a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Early application tuition discounts are available for this program. To view early application discount deadlines, and for more information, visit the Executive Development Center website at www.ucfmba.ucf.edu.

Prior to starting the classes in the MBA program, students may be required to complete a free online assessment in the functional areas of accounting, economics, finance and statistics. A score of 70% or higher in each section will be required in order to enroll in the associated graduate classes. Students who do not earn a 70% or higher in each section may be required to do one of the following: complete online modules in one or more of the four functional areas of accounting, economics, statistics and finance; or retake the assessment to achieve the required 70% score needed in each section to enroll in the associated graduate class.

Application Deadlines

Professional	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 1		
International Applicants		Jan 15		
International Transfer Applicants		Mar 1		

CONTACT INFO

Robin Hofler
Program Staff
mba@bus.ucf.edu
407-235-3913
DTC 201B

Career and Technical Education MA

PROGRAM DESCRIPTION

The Career and Technical Education MA program prepares students pursuing careers in career and technical education to attain the highest degree of competence possible in their chosen field.

The Career and Technical Education program places emphasis on the intellectual growth of each student using research-based effective teaching techniques, scholarly learning, laboratory-field experience, and leadership development.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The Career and Technical Education MA program requires a minimum of 42-45 credit hours beyond the bachelor's degree, including 9 credit hours of education foundation core courses, 9 credit hours of career education core courses, and 21 credit hours of adviser-approved courses focused on a specialization within the field. The program also requires an internship (6 credit hours) or a research report (3 credit hours).

Total Credit Hours Required:

42-45 Credit Hours Minimum beyond the Bachelor's Degree

A core class in the curriculum, required of all students, is the research methods course where examples are related directly to career education. The internship is an independent learning activity that takes place in face-to-face or web-based authentic settings in which students must apply, reflect upon, and refine knowledge and skills acquired in the program. The internship experience gives students full control of the operational setting where they are placed (e.g., such as primary face-to-face or web classroom teacher while being observed and mentored by a supervising teacher and UCF faculty member).

Required Courses—18 Credit Hours

Education Foundation Core—Select 9 Credit Hours

- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- IDS 6504 Adult Learning (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- LAE 5337 Literacy Strategies for Middle and Secondary Teaching (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours) or EDF 6401 Statistics for Educational Data (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)
- EDF 6725 Critical Issues in Urban Education (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6517 Perspectives on Education (3 credit hours)
- EDG 6329 Quality Teaching Practices (3 credit hours)

Career Education Core—9 Credit Hours

- ECT 6791 Research in Career Education (3 credit hours)
- ECW 6067 History of Career Education in the United States (3 credit hours)
- ECW 6666 Issues in Career Education (3 credit hours)

Elective Courses—21 Credit Hours

Students select elective courses in an area of specialization after consultation with their adviser. The areas of specialization may include: health, technical training, teaching adults, business education, Graduate Certificates or another area approved by the adviser.

Internship Option—6 Credit Hours

- ECT 6946 Graduate Internship (6 credit hours)

Research Report Option—3 Credit Hours

- ECT 6909 Research Report (2,1 credit hours)

Co-requisites

If initial certification is desired, see adviser.

INDEPENDENT LEARNING

The internship is an independent learning activity that takes place in face-to-face or web-based authentic settings in which students must apply, reflect upon, and refine knowledge and skills acquired in the program. The internship experience gives students full control of the operational setting where they are placed (e.g., such as primary face-to-face or web classroom teacher while being observed and mentored by a supervising teacher and UCF faculty member).

APPLICATION REQUIREMENTS

In addition to the general UCF graduate admission requirements, applicants to this program must provide one official transcript (in a sealed envelope) from each college/university attended. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate admission requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Career and Technical Education MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Jo Ann Whiteman EdD
Program Director
joann.whiteman@ucf.edu
407-823-5303
ED 123N

Chemistry MS

PROGRAM DESCRIPTION

The Master of Science in Chemistry (MS) program prepares students for careers in the chemical industry or further graduate studies.

The curriculum is designed to provide a broad overall perspective of the chemical sciences field while placing the primary emphasis upon chemistry and the application of chemical principles.

CURRICULUM

The Chemistry MS program offers both a thesis option and a nonthesis option. The thesis option requires a minimum of 30 credit hours beyond the bachelor's degree, including 16 credit hours of required courses, at least 6 credit hours of thesis research, and 8 credit hours of electives that must be approved by the student's advisory committee. The nonthesis option requires a minimum of 31 credit hours beyond the bachelor's degree, including 16 credit hours of required courses, 14 credit hours of electives that must be approved by the student's advisory committee, and 1 credit hour of independent study that culminates in a research report.

Total Credit Hours Required:

30-31 Credit Hours Minimum beyond the Bachelor's Degree

Qualifying Examinations

All students must satisfy qualifying (proficiency) requirements in four of the five areas (analytical chemistry, biochemistry, inorganic chemistry, organic chemistry and physical chemistry) during the first year by taking exams in four of these five subjects. Additional course work may be required if one or more of the qualifying exams are not satisfied. Satisfaction of this requirement will help ensure that all students are adequately prepared for the core courses. If students do not satisfy the proficiency exam requirements within the first year, they may be subject to dismissal from the program.

Required Courses—16 Credit Hours

Students must take four of the following courses. If a student successfully completes all five required courses, one course will count toward fulfilling the electives requirement.

- CHM 6710 Applied Analytical Chemistry (3 credit hours)
- CHS 6240 Chemical Thermodynamics (3 credit hours)
- CHS 6251 Applied Organic Synthesis (3 credit hours)
- CHM 6440 Kinetics and Catalysis (3 credit hours)
- BCH 6740 Applied Biochemistry (3 credit hours)

In addition, students must complete the following seminar.

- CHM 6936 Graduate Chemistry Seminar (1 credit hour, taken four times)

Elective Courses—8 Credit Hours

All students must take 8 credit hours of electives from the following list. All elective courses must be approved by the student's advisory committee.

- CHM 5225 Advanced Organic Chemistry (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 5305 Applied Biological Chemistry (3 credit hours)
- CHM 5450 Polymer Chemistry (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHM 5580 Advanced Physical Chemistry (3 credit hours)
- CHM 6134 Advanced Instrumental Analysis (3 credit hours)
- CHM 6711 Chemistry of Materials (3 credit hours)
- CHS 6260 Chemical Unit Operations and Separations (3 credit hours)
- CHS 6261 Chemical Process and Product Development (2 credit hours)
- CHS 6613 Current Topics in Environmental Chemistry (3 credit hours)
- CHM/CHS Special topics courses

Thesis Option—6 Credit Hours

- CHM 6971 Thesis (6 credit hours)

The grounding in scientific research methodology provided by the thesis requirement is a central focus of the thesis option in the Chemistry MS program. Students will conduct research either on site or at the professional laboratories where they work. In either case, a member of the UCF Chemistry Department faculty will act as research adviser and approve the research topic. This research culminates in the writing and presentation of the thesis. The student will present his/her thesis for final examination (oral defense of thesis) by a committee consisting of three members including the research adviser. The committee has to be approved by the Graduate Coordinator of the Chemistry program. The thesis must be judged worthy of publication by the review committee and may not be submitted for examination until so deemed. For nonresident students, the thesis adviser will visit the student's laboratory, where their research is to be performed, before the research begins and on a regular basis until the work is complete.

Nonthesis Option—7 Credit Hours

Nonthesis students take an additional 7 credit hours of courses, including 6 credit hours of electives from the list above and 1 credit hour of independent study, resulting in a required research report of independent learning experience.

- Electives (6 credit hours)
- CHM 6908 Independent Study (1 credit hour)

Equipment Fee

Full-time students in the Chemistry MS program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 per semester.

INDEPENDENT LEARNING

For the thesis option, the grounding in scientific research methodology is a central focus. This research culminates in the writing and presentation of the thesis. For the nonthesis option, students take an additional 6 credit hours of approved electives and one-credit hour of Independent Study (CHM 6908), which culminates in a required report of the independent study experience.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years and two letters of recommendation.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Chemistry MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Andres Campiglia PhD
Associate Professor
Program Director
acampigl@ucf.edu
407-823-5728
Chemistry 117

Civil Engineering MS

- Structural and Geotechnical Engineering
- Transportation Systems Engineering
- Water Resources Engineering

PROGRAM DESCRIPTION

The Civil Engineering MS degree program reflects the very broad nature of the field, which encompasses the design, construction, and enhancement of the infrastructure of society. The program offers tracks in Structural and Geotechnical Engineering, Transportation Systems Engineering, and Water Resources Engineering. Course work includes structural analysis and design, geotechnical engineering and foundations, transportation planning and operations, traffic engineering, construction engineering, and water resources engineering.

Faculty research interests include geotechnical studies of subsurface conditions, soil testing "superpave" mix design, intelligent transportation systems, traffic safety, structural dynamics, nonlinear structural analysis and software development, reinforced concrete, construction engineering, hydraulic modeling, coastal ocean modeling, stormwater management, and watershed management. Students completing the program find positions in consulting firms, construction and construction-related industries, in city, county, state, and federal government agencies, and academic institutions.

CURRICULUM

The MS degree offers both thesis and nonthesis options with each requiring 30 credit hours of acceptable graduate work. The thesis option requires a 6 credit hour thesis project and the nonthesis option requires an additional 6 credit hours of electives and an end-of-program portfolio submission.

Individual, independent research studies may be required in one or more courses. The research study and report will focus on reviewing and analyzing contemporary research in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area. In addition, students may engage in six credit hours of independent study during their studies.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Equipment Fee

Students in the Civil Engineering MS program pay a $16 equipment fee each semester that they are enrolled. Part-time students pay $8 per semester.

INDEPENDENT LEARNING

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at least one course with a research project and submit an end-of-program portfolio.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor's degree in civil engineering or a closely related field, a résumé, and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in civil engineering or another closely related engineering degree.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

The MS degrees in specialized options are designed for students with appropriate baccalaureate backgrounds. Applicants who are applying to the programs without a directly related undergraduate degree should closely check the prerequisites. Additional undergraduate courses may be required.

Application Deadlines

Civil Engineering MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Omer Tatari PhD, LEED, AP
Associate Professor
Program Director
tatari@ucf.edu
407-823-6558
Engineering II, 301-K

Civil Engineering MS

Structural and Geotechnical Engineering

TRACK DESCRIPTION

The Structural and Geotechnical Engineering track in the Civil Engineering MS program reflects the very broad nature of the field, which encompasses the design, construction, and enhancement of the structural and geotechnical infrastructure of society.

The Structural and Geotechnical Engineering track in the Civil Engineering MS program reflects the very broad nature of the field, which encompasses the design, construction, and enhancement of the infrastructure of society. The program's course work focuses on structural analysis and design, and geotechnical engineering and foundations, but may include electives in transportation planning and operations, traffic engineering, construction engineering, and water resources engineering.

Faculty research interests include geotechnical studies of subsurface conditions, soil testing "superpave" mix design, intelligent transportation systems, traffic safety, structural dynamics, nonlinear structural analysis and software development, reinforced concrete, construction engineering, hydraulic modeling, coastal ocean modeling, stormwater management, and watershed management. Students completing the program find positions in consulting firms, construction and construction-related industries, in city, county, state, and federal government agencies, and academic institutions.

CURRICULUM

The department offers a Structural and Geotechnical Engineering track in the Civil Engineering MS program to students with appropriate science or engineering baccalaureate backgrounds. Both a thesis option and a nonthesis option are available with each requiring 30 credit hours. The thesis option requires 12 credit hours of required courses, 12 credit hours of elective graduate course work (exclusive of thesis and research), and 6 credit hours of thesis. The nonthesis option requires 12 credit hours of required courses and 18 credit hours of elective graduate course work. The nonthesis option also requires submission of an end-of-program portfolio. The student must develop an individual program of study with a faculty adviser and must have background or articulation course work as described below. At least one-half of the required credits must be taken at the 6000 level.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Research studies or projects are required in one or more courses. The research study or project will focus on reviewing and analyzing contemporary research or engineering issues in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area.

Prerequisites (Articulation)

- EGN 3310 Engineering Analysis—Statics (3 credit hours)
- EGN 3321 Engineering Analysis—Dynamics (3 credit hours)
- EGN 3331 Mechanics of Materials (3 credit hours)
- CEG 4011C Geotechnical Engineering I (4 credit hours)
- CES 4100 Structural Analysis (4 credit hours)
- CES 4605 Steel Structures (3 credit hours) OR CES 4702 Reinforced Concrete Structures (3 credit hours)

Required Courses—12 Credit Hours

Both thesis and nonthesis students must choose two courses from each of the two following groups. Courses with asterisks represent those with specific independent learning experiences and all nonthesis students must choose at least one of the courses with an asterisk.

Geotechnical Engineering

- CEG 5700 Geo-Environmental Engineering* (3 credit hours)
- CEG 6065 Soil Dynamics (3 credit hours)
- CEG 6115 Foundation Engineering* (3 credit hours)
- CEG 6317 Advanced Geotechnical Engineering (3 credit hours)
- CES 6170 Boundary Element Methods in Civil Engineering* (3 credit hours)
- TTE 5835 Pavement Engineering (3 credit hours)
- CGN 5506 Advanced Pavement and Civil Engineering Materials (3 credit hours)

Structural Engineering

- CES 5144 Matrix Methods for Structural Analysis (3 credit hours)
- CES 5325 Bridge Engineering (3 credit hours)
- CES 5606 Advanced Steel Structures* (3 credit hours)
- CES 5706 Advanced Reinforced Concrete* (3 credit hours)
- CES 5821 Masonry and Timber Design (3 credit hours)
- CES 6010 Structural Reliability (3 credit hours)
- CES 6116 Finite Element Structural Analysis (3 credit hours)
- CES 6209 Dynamics of Structures (3 credit hours)
- CES 6220 Wind and Earthquake Engineering (3 credit hours)
- CES 6230 Advanced Structural Mechanics (3 credit hours)
- CES 6527 Nonlinear Structural Analysis (3 credit hours)
- CES 6715 Prestressed Concrete Structures* (3 credit hours)
- CES 6840 Composite Steel Concrete Structures* (3 credit hours)
- CES 6910 Research in Structural Engineering (3 credit hours)

Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must complete at least 12 credit hours of approved electives (primarily from the above two groups but also from the list below or other courses as approved by the student's adviser). Please note that Directed Research (XXX 6918) is not permitted in the MS program of study.

Construction Engineering and Management

- CCE 5205 Decision Support for Infrastructure Projects (3 credit hours)

- CCE 5006 Infrastructure Systems Management (3 credit hours)
- CCE 5220 Green Design and Construction (3 credit hours)
- CCE 5937 Construction Contracts (3 credit hours)
- CCE 6036 Advanced Construction Planning and Control* (3 credit hours)
- CCE 6211 Design and Monitoring of Construction Processes (3 credit hours)
- CCE 6045 Cost Analysis of Sustainable Infrastructure Systems (3 credit hours)

Thesis Option—6 Credit Hours

- XXX 6971 Thesis (6 credit hours)

Successful performance in a final defense of the thesis is required. In addition, the College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

Nonthesis students must complete 6 additional credit hours of electives from the lists above or other courses as approved by the student's adviser. Please note that at least one course in the nonthesis program of study must be one of the courses with an asterisk, which denotes that this course provides an independent learning experience for the student.

- Electives (6 credit hours)

Portfolio Requirement

Students are required to complete a culminating experience. The culminating experience for nonthesis MS students is submission of an end-of-program portfolio. The portfolio requirements are listed on the CECE website.

Equipment Fee

Students in the Civil Engineering MS program pay a $16 equipment fee each semester that they are enrolled. Part-time students pay $8 per semester.

INDEPENDENT LEARNING

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at least one course with a research project and submit an end-of-program portfolio.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor’s degree in civil engineering or a closely related field, a résumé, and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in civil engineering or another closely related engineering degree.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

The MS degrees in specialized options are designed for students with appropriate baccalaureate backgrounds. Applicants who are applying to the programs without a directly related undergraduate degree should closely check the prerequisites. Additional undergraduate courses may be required.

Application Deadlines

Structural and Geotechnical Engineering	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Omer Tatari PhD, LEED, AP
Associate Professor
Program Director
tatari@ucf.edu
407-823-6558
Engineering II, 301-K

Civil Engineering MS

Transportation Systems Engineering

TRACK DESCRIPTION

The Transportation Systems Engineering track in the Civil Engineering MS program reflects the very broad nature of the field, which encompasses the design, construction, and enhancement of the infrastructure of society. The program's course work focuses on transportation planning and operations, traffic engineering and construction engineering.

Faculty research interests include intelligent transportation systems, traffic safety, traffic signal design, and construction engineering. Students completing the program find positions in consulting firms, construction and construction-related industries, in city, county, state, and federal government agencies, and academic institutions.

CURRICULUM

The Transportation Systems Engineering track in the Civil Engineering MS program is for students with appropriate science or engineering baccalaureate backgrounds. Both a thesis option and a nonthesis option are available with each requiring 30 credit hours of graduate courses. The thesis option requires 15 credit hours of required courses, 9 credit hours of elective courses (exclusive of thesis and research), and a thesis (6 credit hours). The nonthesis option requires 15 credit hours of required courses and 15 credit hours of elective graduate course work. The nonthesis option also requires submission of an end-of-program portfolio. The student must develop an individual program of study with a faculty adviser and must have background or articulation course work as described below. At least one-half of the required credits must be taken at the 6000 level.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Research studies or projects are required in one or more courses. The research study or project will focus on reviewing and analyzing contemporary research or engineering issues in a student's particular specialization within the profession in order to help students independently acquire knowledge and skills pertaining to best practices in that specialization area.

Prerequisites

- STA 3032 Probability and Statistics for Engineers (3 credit hours)
- TTE 3810 Transportation Engineering (3 credit hours)

Required Courses—15 Credit Hours

Both thesis and nonthesis students must choose five of the following courses. Courses with asterisks provide independent learning experiences. These experiences encompass research reports, design projects, and literature studies. Nonthesis students must choose at least one course with an asterisk.

- TTE 5204 Traffic Engineering* (3 credit hours)
- TTE 6205 Highway Capacity and Traffic Flow Analysis (3 credit hours)
- TTE 5805 Geometric Design of Transportation Systems* (3 credit hours)
- TTE 5835 Pavement Design (3 credit hours)
- TTE 6256 Traffic Operations* (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)
- TTE 6315 Traffic Safety Analysis* (3 credit hours)
- TTE 6526 Planning and Design of Airports* (3 credit hours)

- CGN 6655 Regional Planning, Design and Development (3 credit hours)
- ESI 5219 Engineering Statistics or STA 5206 Statistical Analysis (3 credit hours)

Elective Courses—9 Credit Hours

All students, both thesis and nonthesis, must complete at least 9 credit hours of approved electives from the list above or other courses as approved by the student's adviser. Directed Research (XXX 6918) is not permitted in the MS program of study.

- Electives (9 credit hours)

Thesis Option—6 Credit Hours

- TTE 6971 Thesis (6 credit hours)

A final defense of the thesis is required. In addition, the College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's advisor and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

For those pursuing the nonthesis option, two additional electives are required, which should preferably come from the above list, although other courses may be chosen with adviser's consent.

- Electives (6 credit hours)

Portfolio Requirement

Students are required to complete a culminating experience. The culminating experience for nonthesis MS students is submission of an end-of-program portfolio. the portfolio requirements are listed on the CECE website.

Equipment Fee

Students in the Civil Engineering MS program pay a $16 equipment fee each semester that they are enrolled. Part-time students pay $8 per semester.

INDEPENDENT LEARNING

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at least one of the courses marked with an asterisk (*), denoting an independent learning experience, and submit an end-of-program portfolio.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor's degree in civil engineering or a closely related field, a résumé, and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in civil engineering or another closely related engineering degree.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews with applicants before accepting them into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered fora ny fellowships, a GRE score is required.

The MS degrees in specialized options are designed for students with appropriate baccalaureate backgrounds. Applicants who are applying to the programs without a directly related undergraduate degree should closely check the prerequisites. Additional undergraduate courses may be required.

Application Deadlines

Transportation Systems Engineering	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Omer Tatari PhD, LEED, AP
Associate Professor
Program Director
tatari@ucf.edu
407-823-6558
Engineering II, 301-K

Civil Engineering MS

Water Resources Engineering

TRACK DESCRIPTION

The Water Resources Engineering track in the Civil Engineering MS program reflects the very broad nature of the field, which encompasses the design, construction, and enhancement of the infrastructure of society. The program's course work focuses on water resources modeling, hydraulics and hydrology. Water Resource faculty research interests include ecohydraulic and ecohydrologic modeling, groundwater and surface hydrology, sea level rise and other climate change impact assessments, stormwater management, tide, wind-wave and hurricane storm surge modeling, and environmental water resources management. Students completing the program find positions in consulting firms, construction and construction-related industries, in city, county, state, and federal government agencies, and academic institutions.

CURRICULUM

The Water Resources Engineering track in the Civil Engineering MS program is for students with appropriate science or engineering baccalaureate backgrounds. Both thesis and non-thesis options are available with each requiring 30 credit hours. The thesis option requires 15 credit hours of required courses, 9 credit hours of elective graduate course work exclusive of thesis and research, and a thesis (6 credit hours). The nonthesis option requires 15 credit hours of required graduate course work, 15 credit hours of electives, and submission of an end-of-program portfolio. Each student must have an individual program of study approved by his/her faculty committee and have completed all required articulation course work as described below. At least one-half of the required credits must be taken at the 6000 level.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Research studies or projects are required in one or more courses. The research study or project will focus on reviewing and analyzing contemporary research or engineering issues in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area.

Prerequisites (Articulation)

- CEG 4011C Geotechnical Engineering I (4 credit hours)
- CWR 4632C Water Resources I (4 credit hours)
- CWR 4633C Water Resources II (3 credit hours)
- EGN 3613 Engineering Economic Analysis (2 credit hours)
- STA 3032 Probability and Statistics for Engineers (3 credit hours)

Required Courses—15 Credit Hours

Both thesis and nonthesis students must choose five CWR courses from the list below. Courses with an asterisk provide an independent learning experience that involves research and design projects. Nonthesis students are required to take at least one course with an asterisk in order to obtain an independent learning experience.

- CWR 5125 Groundwater Hydrology (3 credit hours)
- CWR 5205 Hydraulic Engineering (3 credit hours)
- CWR 5515 Numerical Methods in Civil and Environmental Engineering (3 credit hours)
- CWR 5545 Water Resources Engineering (3 credit hours)
- CWR 5634 Water Resources in a Changing Environment (3 credit hours)
- CWR 6102 Advanced Hydrology* (3 credit hours)
- CWR 6126 Groundwater Modeling* (3 credit hours)
- CWR 6235 Open Channel Hydraulics (3 credit hours)
- CWR 6236 River Engineering and Sediment Transport (3 credit hours)
- CWR 6535 Modeling Water Resources Systems* (3 credit hours)
- CWR 6539 Finite Elements in Surface Water Modeling (3 credit hours)

Elective Courses—9 Credit Hours

All students, both thesis and nonthesis, are required to take at least 9 credit hours of approved electives. The courses may be from the list above or other courses as approved by the student's adviser. Directed Research (XXX 6918) is not permitted in the MS program of study

- Electives (9 credit hours)

Thesis Option—6 Credit Hours

- CWR 6971 Thesis (6 credit hours)

A successful defense of the thesis is required. In addition, the College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

Nonthesis students must complete at least 6 additional credit hours of electives from either the list above or other courses as approved by the student's adviser.

- Electives (6 credit hours)

Portfolio Requirement

Students are required to complete a culminating experience. The culminating experience for nonthesis MS students is submission of an end-of-program portfolio. The portfolio requirements are listed on the CECE website.

Equipment Fee

Students in the Civil Engineering MS program pay a $16 equipment fee each semester that they are enrolled. Part-time students pay $8 per semester.

INDEPENDENT LEARNING

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at least one of the courses marked with an asterisk (*), denoting an independent learning experience, and submission of an end-of-program portfolio.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor's degree in civil engineering or a closely related field, a résumé, and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in civil engineering or another closely related engineering degree.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

The MS degrees in specialized options are designed for students with appropriate baccalaureate backgrounds. Applicants who are applying to the programs without a directly related undergraduate degree should closely check the prerequisites. Additional undergraduate courses may be required.

Application Deadlines

Water Resources Engineering	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Omer Tatari PhD, LEED, AP
Associate Professor
Program Director
tatari@ucf.edu
407-823-6558
Engineering II, 301-K

Civil Engineering MSCE

PROGRAM DESCRIPTION

The Master of Science in Civil Engineering degree is designed for students who have an undergraduate degree in Civil Engineering or another closely related engineering degree. Graduate work and research in civil engineering reflect the very broad nature of the field, which encompasses the design, construction, and enhancement of the infrastructure of society.

The Master of Science in Civil Engineering (MSCE) degree is designed for students who have an undergraduate degree in Civil Engineering or another closely related engineering degree. Graduate work and research in civil engineering reflects the very broad nature of the field, which encompasses the design, construction, and enhancement of the infrastructure of society. The program includes course work in structural analysis and design, geotechnical engineering and foundations, transportation planning and operations, traffic engineering, construction engineering and water resources engineering.

Faculty research interests include geotechnical studies of subsurface conditions, soil testing "superpave" mix design, intelligent transportation systems, traffic safety, structural dynamics, nonlinear structural analysis and software development, reinforced concrete, construction engineering, hydraulic modeling, coastal ocean modeling, stormwater management, and watershed management. Students completing the program find positions in consulting firms, construction and construction-related industries, in city, county, state, and federal government agencies, and academic institutions.

CURRICULUM

The Civil Engineering MSCE program requires a minimum of 30 credit hours beyond the bachelor's degree, and both thesis and nonthesis options are available. The thesis option requires 24 credit hours of formal graduate-level course work and 6 credit hours of thesis. The nonthesis option requires 30 hours of formal course work and completion of a culminating experience. For nonthesis MS students, the culminating experience is submission of a portfolio that satisfies program requirements. It is strongly suggested that part-time students pursue the nonthesis option.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Students must develop an individual plan of study with a faculty adviser by their second semester of study. At least one-half of the required credits must be taken at the 6000 level.

Research studies are required in one or more courses. The research study and report will focus on reviewing and analyzing contemporary research in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area. In addition, students may engage in directed independent studies, directed research or a research report during their studies. Courses with asterisks represent those with specific independent learning experiences, and all nonthesis students must choose at least one course with an asterisk.

Elective Courses—24 Credit Hours

Thesis MS students must take a minimum of 24 credit hours of course work with at least 18 credit hours from the Civil, Environmental and Construction Engineering (CECE) Department in their program of study.

Nonthesis MS students must take at least 24 credit hours of course work from the CECE Department in their program of study. Nonthesis students must take at least one course where a research project is required (one course marked with an asterisk).

Geotechnical Engineering

- CEG 6065 Soil Dynamics(3 credit hours)*
- CEG 6115 Foundation Engineering (3 credit hours)
- CEG 6317 Advanced Geotechnical Engineering (3 credit hours)

Structural Engineering

- CES 5144 Matrix Methods for Structural Analysis (3 credit hours)
- CES 5325 Bridge Engineering (3 credit hours)*
- CES 5606 Advanced Steel Structures (3 credit hours)

- CES 5706 Advanced Reinforced Concrete (3 credit hours)
- CES 5821 Masonry and Timber Design (3 credit hours)
- CES 6010 Structural Reliability (3 credit hours)
- CES 6116 Finite Element Structural Analysis (3 credit hours)
- CES 6209 Dynamics of Structures (3 credit hours)*
- CES 6220 Wind and Earthquake Engineering (3 credit hours)
- CES 6230 Advanced Structural Mechanics (3 credit hours)
- CES 6527 Nonlinear Structural Analysis (3 credit hours)
- CES 6715 Prestressed Concrete Structures (3 credit hours)*
- CES 6840 Composite Steel Concrete Structures (3 credit hours)*
- CES 6910 Research in Structural Engineering (3 credit hours)

Transportation Engineering

- TTE 5204 Traffic Engineering (3 credit hours)
- TTE 5805 Geometric Design of Transportation Systems (3 credit hours)
- TTE 5835 Pavement Design (3 credit hours)
- TTE 6205 Highway Capacity (3 credit hours)*
- TTE 6256 Traffic Operations (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)*
- TTE 6315 Traffic Safety Analysis (3 credit hours)*
- TTE 6526 Planning and Design of Airports (3 credit hours)
- TTE 6625 Mass Transportation Systems (3 credit hours)
- CGN 6655 Regional Planning, Design, and Development (3 credit hours)

Water Resources Engineering

- CWR 5125 Groundwater Hydrology (3 credit hours)
- CWR 5205 Hydraulic Engineering (3 credit hours)
- CWR 5515 Numerical Methods in Civil and Environmental Engineering (3 credit hours)
- CWR 5545 Water Resources Engineering (3 credit hours)
- CWR 5634 Water Resources in a Changing Environment (3 credit hours)
- CWR 6102 Advanced Hydrology (3 credit hours)*
- CWR 6126 Groundwater Modeling (3 credit hours)*
- CWR 6235 Open Channel Hydraulics (3 credit hours)
- CWR 6236 River Engineering and Sediment Transport (3 credit hours)
- CWR 6535 Modeling Water Resources Systems (3 credit hours)*

Construction Engineering and Management

- CCE 5205 Decision Support for Infrastructure Projects (3 credit hours)
- CCE 5006 Infrastructure Systems Management (3 credit hours)
- CCE 5220 Green Design and Construction (3 credit hours)
- CCE 5937 Construction Contracts (3 credit hours)
- CCE 6036 Advanced Construction Planning and Control (3 credit hours)*
- CCE 6211 Design and Monitoring of Construction Processes (3 credit hours)*
- CCE 6045 Cost Analysis of Sustainable Infrastructure Systems (3 credit hours)

Thesis Option—6 Credit Hours

For those pursuing the thesis option, students must complete 6 credit hours of thesis and successfully defend the thesis.

- XXX 6971 Thesis (6 credit hours, with the course prefix of CGN, CEG, CES, CWR or TTE)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

Students in the nonthesis option must complete 6 credit hours of electives in addition to the 24 credit hours of formal course work described above. All totaled, the nonthesis option requires 30 credit hours of course work.

- Electives (6 credit hours)

Portfolio Requirement

Students are required to complete a culminating experience. The culminating experience for nonthesis MS students is submission of their portfolio of activities by the course Withdrawal date of the semester prior to their intended graduation. The portfolio requirements are listed on the CECE website.

Equipment Fee

Students in the Civil Engineering MSCE program pay a $16 equipment fee each semester that they are enrolled. Part-time students pay $8 per semester.

INDEPENDENT LEARNING

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at lease one course where a research project is required and submit an end-of-program portfolio.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to the general application requirements, applicants must provide a bachelor of science degree in civil engineering or another closely related field, a résumé, and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A Bachelor of Science degree in civil engineering or another closely related engineering degree.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

Application Deadlines

Civil Engineering MSCE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Omer Tatari PhD, LEED, AP
Associate Professor
Program Director
tatari@ucf.edu
407-823-6558
Engineering II, 301-K

Clinical Psychology MA

PROGRAM DESCRIPTION

The Master of Arts Clinical Psychology program is designed to provide training and preparation for students desiring to deliver clinical services through community agencies and in independent practice. After completing the program and a two-year postgraduate internship, graduates are eligible to become Licensed Mental Health Counselors in the state of Florida (with the possible exception of the research/thesis option as described below).

The Master of Arts Clinical Psychology Program is a terminal master's program offered at the UCF Sanford/Lake Mary Campus.

This program is designed to provide training and preparation for students desiring to deliver clinical services through community agencies and perhaps independent practice. After completing the program and a two-year postgraduate supervised clinical experience, graduates are eligible to become Licensed Mental Health Counselors in the state of Florida (with the possible exception of the research/thesis option as described below).

The master's program is concerned with the application of psychological principles to individuals. The two primary areas of emphasis include assessment or evaluation skills and intervention or psychotherapy skills, and the program curriculum is consistent with the educational criteria for licensure as a mental health counselor in the state of Florida. Master's program graduates have been involved in mental health service delivery through individual, marital, family, and group psychotherapy, as well as crisis intervention and other specialized therapeutic procedures. In addition, it is common for a number of students from each cohort to enter doctoral programs after graduating, and there are research and thesis opportunities available for students who are interested.

Clinical Faculty

Steven Berman, Ph.D.
Interests: Research and clinical interests include identity development, identity distress, existential anxiety, positive youth development, adolescent and young adult clinical psychology.
Contact: https://sciences.ucf.edu/psychology/people/berman-steven-l/

Brian Fisak, Ph.D.
Interests: Research and clinical interests include anxiety disorders, worry, prevention, evidence-based interventions, child clinical psychology.
Contact:
https://sciences.ucf.edu/psychology/people/fisak-brian/

Ed Fouty, Ph.D.
Interests: Research and clinical interests include neuropsychology and clinical medical psychology.
Contact:
https://sciences.ucf.edu/psychology/people/fouty-ed/

Bernard Jensen, Ph.D.
Interests: Clinical, teaching, and research interests include cognitive behavior therapy, assessment and treatment of marital dysfunction, self-efficacy and athletic performance, and variables associated with exercise behavior.
Contact:
https://sciences.ucf.edu/psychology/people/jensen-bernard/

Monique Levermore, Ph.D.
Interests: Teaching and clinical interests include private practice, consulting, psychological assessment and clinical supervision.
Contact:
https://sciences.ucf.edu/psychology/people/levermore-monique/

Karen Mottarella, Psy.D.
Interests: Teaching and clinical interests include adult clinical psychology, women's mental health, academic advising and career readiness.
Contact:
https://sciences.ucf.edu/psychology/people/mottarella-karen/

Jessica Waesche, Ph.D.
Interests: Clinical and teaching interests include adult clinical psychology, assessment and diagnosis of mental illness, evidence-based interventions.
Contact:
https://sciences.ucf.edu/psychology/people/waesche-jessica/

Frequently Asked Questions

https://sciences.ucf.edu/psychology/clinical-psychology-ma-program-faqs/

CURRICULUM

The Clinical Psychology MA program requires a minimum of 61 credit hours beyond the bachelor's degree, including 43-49 credit hours of required courses, and 12 clinical internship credit hours. The program has two options: Applied Pre-Licensure/Nonthesis and Research/Thesis.

Total Credit Hours Required:

61 Credit Hours Minimum beyond the Bachelor's Degree

Option 1: Applied Pre-Licensure/Nonthesis

Required Courses—49 Credit Hours

- CLP 5166 Advanced Abnormal Psychology (3 credit hours)
- CLP 6181 Psychological Theories of Substance Abuse Treatment (3 credit hours)
- CLP 6191 Cross-Cultural Psychotherapy (3 credit hours)
- CLP 6195C Introduction to Psychotherapy (3 credit hours)
- CLP 6321 Psychotherapy in Community Settings (3 credit hours)
- CLP 6441C Individual Psychological Assessment I (3 credit hours)
- CLP 6457C Group Psychotherapy (3 credit hours)
- CLP 6459C Human Sexuality, Marriage, and Sex Therapies (3 credit hours)
- CLP 6460C Introduction to Child, Adolescent, and Family Therapies (3 credit hours)
- CLP 6461 Cognitive Behavior Therapy (3 credit hours)
- CLP 6449C Career and Lifestyle Assessment (3 credit hours)
- CLP 6932 Ethical and Professional Issues in Mental Health Practices (3 credit hours)
- CYP 6942 Practicum in Psychological Counseling (3 credit hours)
- DEP 5057 Developmental Psychology (3 credit hours)
- PSY 6216C Research Methodology (4 credit hours)
- MHS 6430 Family Counseling I (3 credit hours)

Internship—12 Credit Hours

- CYP 6948C Psychology Internship (12 credit hours)

The purpose of the internship requirement is to provide the MA candidate in Clinical Psychology with comprehensive, practical-based experiences under the supervision of licensed mental health professionals. A public agency or nonprofit institution with nondiscriminatory practices is the prototype. The intern is assigned to an acceptable agency for a total of 1000 hours during three consecutive academic semesters (20 hours per week for 16 weeks during fall and spring terms, and 30 hours per week for 12 weeks during the summer term). An additional commitment of two hours per week is required for the interns to meet as a group with a departmental faculty member for review, feedback, and discussions. A major portion of intern training is in the area of psychotherapy/counseling. The intern also engages in differential diagnosis and participates in a wide variety of psychological assessment procedures.

It is believed that supervision by qualified and experienced personnel is the primary learning mode by which the intern develops professional expertise and augments the classroom material previously acquired. Satisfactory completion ("B" [3.0 grade point average] or better) of the following courses is generally required prior to internship: CLP 5166, CLP 6195C, CLP 6441C, and CYP 6942.

The program director and clinical placement coordinator approve internship pleacements. Interns are provided with a system for maintaining accurate accounts of their activity during each week of their internship. In addition, both the intern and supervisor(s) complete an Internship Evaluation form each semester.

Option 2: Research/Thesis

The Research/Thesis option is available only with program approval. Students who choose this option may not be license eligible depending on the restricted electives they select. It is important for students to work closely with their adviser to determine the plan of study that best meets their academic/career goals.

Required Courses—19 Credit Hours

- CLP 5166 Advanced Abnormal Psychology (3 credit hours)
- CLP 6195C Introduction to Psychotherapy (3 credit hours)
- CLP 6441C Individual Psychological Assessment I (3 credit hours)
- CLP 6932 Ethical and Professional Issues in Mental Health Practices (3 credit hours)
- CYP 6942 Practicum in Psychological Counseling (3 credit hours)
- PSY 6216C Research Methodology (4 credit hours)

Restricted Electives—24 Credit Hours Required, 6 Credit Hours Optional/Additional

- CLP 6181 Psychological Theories of Substance Abuse Treatment (3 credit hours)
- CLP 6191 Cross-Cultural Psychotherapy (3 credit hours)
- CLP 6321 Psychotherapy in Community Settings (3 credit hours)
- CLP 6457C Group Psychotherapy (3 credit hours)
- CLP 6459C Human Sexuality, Marriage, and Sex Therapies (3 credit hours)
- CLP 6460C Introduction to Child, Adolescent, and Family Therapies (3 credit hours)
- CLP 6461 Cognitive-Behavioral Therapy (3 credit hours)
- CLP 6449C Career and Lifestyle Assessment (3 credit hours)
- DEP 5057 Developmental Psychology (3 credit hours)

- MHS 6430 Family Counseling I (3 credit hours)

Internship—12 Credit Hours Required

- CYP 6948C Psychology Internship (12 credit hours) - See Option 1 for description.

Thesis—6 Credit Hours Required

- PSY 6971 Thesis (6 credit hours)

Additional Program Requirements

For all students in the Clinical MA program, successful completion requires demonstration of academic and clinical excellence. Students who receive grades lower than B (including B- and grades of U in courses graded satisfactory/unsatisfactory) in six semester hours or more will be dismissed from the program. It is a program requirement that all course work with a grade lower than B be retaken and completed successfully, although both grades are still calculated in the GPA.

In addition to academic excellence, students are expected to demonstrate clinical skills and personal resources that are up to the demands of clinical work. At the end of each semester, students will receive written feedback from the faculty on the extent to which they are meeting the programs requirements and performance expectations. Student progress will be rated as satisfactory or unsatisfactory. Students who receive an unsatisfactory rating will be asked to complete remedial assignments as determined by the faculty. If the identified problems are not remedied and/or a second unsatisfactory rating is received, the student will be dismissed from the program.

Summer Enrollment

Summer enrollment is required for all students in the program.

Comprehensive Exam and Case Presentation

The culminating academic experience for all students in the program (both options) is successful completion of a comprehensive exam and case presentation. All students must complete the comprehensive exam their final semester. The exam covers the core professional knowledge required by state licensing agencies. Students also are required to complete a written and oral clinical case presentation. Criteria for passing the exam and presentation are provided in the program handbook.

INDEPENDENT LEARNING

There are several independent learning experiences built into the program of study that help to individualize the training program. The field experiences require that students, in consultation with the field placement supervisor and participating agencies, select practicum and internship placements, which will give them an opportunity to hone their clinical skills with supervision in an agency where they can work with specific populations of interest. During practicum and internship students will have the opportunity to present cases that incorporate an integration of assessment data and its interpretation, theoretical conceptualization, treatment planning, course of therapy, and available outcome data. This is done ensuring client confidentiality and the highest ethical standards.

All students engage in independent learning through their individual preparation for the Comprehensive Exam. Students who pursue the thesis option also engage in independent learning through the design and implementation of original research.

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- A bachelor's degree in Psychology or a related area. A minimum of 15 semester hours of undergraduate psychology courses are required as a prerequisite for applicants with a degree in a field other than psychology. Competitive applicants with degrees in related areas will have completed courses in the following areas: abnormal psychology, developmental or child psychology, personality theory, learning theory, experimental psychology, and courses in research methods and statistics.
- Resume or Curriculum Vita.
- Personal Statement describing the applicant's experience, interest in psychology, and professional goals.
- Three letters of recommendation, with at least two furnished by instructors who are acquainted with the applicant.

Students are admitted to full-time or nondegree-seeking status:

- Full-time students complete the MA program in two calendar years (including summers).
- Students who do not maintain satisfactory progress towards degree completion will be dismissed from the program.
- Community professionals may be admitted to nondegree-seeking status in order to meet job or licensing requirements after consultation with the program director.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Admission into the clinical master's program is competitive, with all information that might be available to the committee (e.g., GRE scores, GPA, letters of reference, personal statement, clinical experience, research experience, and interview performance) considered in admissions decisions. Many applicants who meet minimum university requirements may not be admitted to the program. A department admissions committee reviews each student's credentials and may invite candidates for an interview. Final selection is based on both submitted credentials and the interview.

Application Deadlines

Clinical Psychology MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Jan 1		
International Applicants	Jan 1	Jan 1		
International Transfer Applicants	Jan 1	Jan 1		

CONTACT INFO

Bernard Jensen PhD
Associate Professor
Program Director
bernard.jensen@ucf.edu
407-708-2836

Communication MA

PROGRAM DESCRIPTION

The Master of Arts in Communication offers tracks in Interpersonal Communication and Mass Communication. The curriculum focuses on theoretical and applied perspectives of communication theory and research.

The Master of Arts in Communication offers tracks in Interpersonal Communication and Mass Communication. The curriculum focuses on theoretical and applied perspectives of communication theory and research. Graduates derive benefits in a variety of academic and career directions, including entry into doctoral programs, advancement within existing career contexts, and the procurement of new career directions in the public and private sectors.

CURRICULUM

All students must select either the Interpersonal Communication or Mass Communication track. To select or change a track, students should consult the graduate program director at the Nicholson School of Communication.

Total Credit Hours Required:

33-34 Credit Hours Minimum beyond the Bachelor's Degree

APPLICATION REQUIREMENTS

Nicholson School of Communication graduate program application requirements are listed below. Applicants are expected to select a specific track for consideration.

Application requirements for either track are the same, but applicants must choose a specific track for admission consideration.

CONTACT INFO

Kirsten Seitz
Program Staff
kirsten.seitz@ucf.edu
407-823-4655
NSC 143

Communication MA

Interpersonal Communication

TRACK DESCRIPTION

The Interpersonal Communication track of the Communication MA focuses on theoretical and applied perspectives of interpersonal communication theory and research.

Graduates derive benefits in a variety of academic and career directions, including entry into doctoral programs, advancement within existing career contexts, and the procurement of new career directions in the public and private sectors.

CURRICULUM

The MA degree program in Interpersonal Communication is a four-semester program for full-time students. Part-time students may take up to seven years to complete the program. Both thesis and nonthesis options are offered and both consist of a minimum of 34 (thesis) or 33 (nonthesis, comprehensive examinations) semester hours of work. By the end of their first 18 hours of course work, students should decide whether to pursue the thesis or nonthesis option. During their first six hours of study, students are required to complete COM 6008 (Proseminar in Communication) and COM 5312 (Introduction to Communication Research).

Total Credit Hours Required:

33-34 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—18 Credit Hours

All required courses must be completed with a grade of B- or higher.

- COM 5312 Introduction to Communication Research (3 credit hours)
- COM 6008 Proseminar in Communication (3 credit hours)
- COM 6046 Interpersonal Communication (3 credit hours)
- COM 6303 Qualitative Research Methods in Communication (3 credit hours)
- COM 6304 Quantitative Research Methods in Communication (3 credit hours)
- SPC 6219 Modern Communication Theory (3 credit hours)

Elective Courses—12 Credit Hours

In addition to the courses listed below, special topics courses, study abroad courses, up to 6 credit hours of approved independent studies, directed research, internship, and graduate-level courses taken outside the Nicholson School of Communication may be counted as restricted electives, pending approval by the program director.

- ADV 6209 Advertising and Society (3 credit hours)
- COM 5932 Topics in Communication Theory and Research (3 credit hours)
- COM 6466 Persuasion in the Media (3 credit hours)
- COM 6815 Risk Communication (3 credit hours)
- COM 6025 Health Communication (3 credit hours)
- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- COM 6048 Communication in Close Relationships (3 credit hours)
- COM 6121 Communication Management (3 credit hours)
- COM 6145 Organizational Communication (3 credit hours)
- COM 6425 Symbolism in Terrorism (3 credit hours)
- COM 6463 Studies in Intercultural Communication (3 credit hours)
- COM 6467 Studies in Persuasion (3 credit hours)
- COM 6468 Communication and Conflict (3 credit hours)
- COM 6525 Communication Strategy and Planning (3 credit hours)
- MMC 6202 Legal and Ethical Issues for Communication (3 credit hours)
- MMC 6266 Communications Convergence and Media Planning (3 credit hours)
- MMC 6307 International Communication (3 credit hours)
- MMC 6407 Visual Communication Theory (3 credit hours)
- MMC 6567 Seminar in New Media (3 credit hours)
- MMC 6600 Media Effects and Audience Analysis (3 credit hours)
- MMC 6607 Communication and Society (3 credit hours)
- MMC 6612 Communication and Government (3 credit hours)
- MMC 6735 Social Media as Mass Communication (3 credit hours)
- PUR 6005 Theories of Public Relations (3 credit hours)
- PUR 6403 Crisis Public Relations (3 credit hours)
- PUR 6215 Communicating Corporate Social Responsibility (3 credit hours)
- PUR 6405 Communication and Public Relations in Politics and Government (3 credit hours)
- SPC 6340 Teaching Communication (3 credit hours)
- SPC 6442 Small Group Communication (3 credit hours)

Thesis Option—4 Credit Hours

On average, students take about two full semesters to complete a thesis project, so students should begin the process about one year from their desired graduation date. Students begin the thesis process by selecting a thesis adviser who will serve as the Chair of the Thesis Advisory Committee. In conjunction with their thesis adviser, students will develop a topic and choose two additional members of the thesis committee. The thesis committee must be approved prior to enrolling in thesis hours. All thesis advisory committees in the Nicholson School of Communication must be chaired by a member of the NSC graduate faculty. At least one semester prior to the thesis defense, students will submit a thesis proposal. Copies of the proposal will be routed to members of their thesis committee and a proposal hearing scheduled. All students must pass a proposal hearing as well as a final oral defense of their thesis. Students who elect to write a thesis should become familiar with the university's requirements and deadlines for organizing and submitting the thesis. More information about the thesis process is available in the program handbook and the UCF College of Graduate Studies website.

- XXX 6971 Thesis (minimum of 4 credit hours, can be taken individually)

Nonthesis Option—3 Credit Hours

The nonthesis (comprehensive examination) option is a four-examination requirement that assesses students' coursework competency. Students who choose the comprehensive examination option must take one additional elective course (three credit hours) and successfully complete the comprehensive examinations. The examinations will cover quantitative research methods, qualitative research methods, interpersonal communication, communication theory (i.e., the program core), and elective areas selected together by the student with her or his comprehensive examination committee. In order to fulfill the comprehensive exam requirement the student must earn a passing grade on all exams. Once an exam in an area is passed, the student does not have to sit for that exam area again. Students are allowed three attempts to satisfy the comprehensive exam requirement. Students are expected to refer to the NSC Graduate Program handbook for the comprehensive examination protocol.

- Elective (3 credit hours)
- Comprehensive examination

Equipment Fees

Full-time students in the Communication MA program pay a $16 equipment fee each semester that they are enrolled. Part-time students pay $8 per semester.

INDEPENDENT LEARNING

Students who elect the thesis option engage in independent learning through the design and implementation of original research in the thesis process. Students who pursue the comprehensive examination option experience independent learning through their individual preparation for each of six comprehensive examinations. All students engage in independent learning in every Communication core course. A research paper or project is required in each of these classes. The papers and projects provide independent learning by requiring students to design and carry out research projects and develop analytical papers, some of which are submitted to conferences and/or journals for peer review. Internships and independent studies are also common opportunities for independent learning in the Communication MA program.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Applicants should adhere to the application requirements outlined below. An application will not be reviewed for admission until it is verified as complete by the UCF College of Graduate Studies.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Written statement outlining the applicant's academic and professional goals.
- Two letters of recommendation attesting to the applicant's potential for academic success.

The following information is required for those who wish to be considered for funding initiated by the Nicholson School of Communication, but is recommended for all applicants:

- Additional letter of recommendation (total of three)
- Resume or Curriculum Vita

Application Deadlines

Interpersonal Communication	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 1	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Kirsten Seitz
Program Staff
kirsten.seitz@ucf.edu
407-823-4655
NSC 143

Communication MA

Mass Communication

TRACK DESCRIPTION

The Mass Communication track of the Communication MA focuses on theoretical and applied perspectives of mass communication theory and research. Graduates derive benefits in a variety of academic and career directions, including entry into doctoral programs, advancement within existing career contexts, and the procurement of new career directions in the public and private sectors.

CURRICULUM

The MA degree program in Mass Communication is a four-semester program for full-time students. Part-time students may take up to seven years to complete the program. Both thesis and nonthesis options are offered and both consist of a minimum of 34 (thesis) or 33 (nonthesis, comprehensive examination) semester hours of work. By the end of their first 18 hours of course work, students should decide whether to pursue the thesis or nonthesis option. During their first six hours of coursework, students are required to complete COM 6008 (ProSeminar) and COM 5312 (Introduction to Communication Research).

Total Credit Hours Required:

33-34 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

All required courses must be completed with a grade of B- or higher.

- COM 5312 Introduction to Communication Research (3 credit hours)
- COM 6008 Proseminar in Communication (3 credit hours)
- COM 6303 Qualitative Research Methods in Communication (3 credit hours)
- COM 6304 Quantitative Research Methods in Communication (3 credit hours)
- MMC 6402 Mass Communication Theory (3 credit hours)

Elective Courses—15 Credit Hours

In addition to the courses listed below, special topics courses, study abroad courses, up to 6 credit hours of approved independent studies, directed research, internship, and graduate-level courses taken outside the Nicholson School of Communication may be counted as restricted electives pending approval by the program director.

- ADV 6209 Advertising and Society (3 credit hours)
- COM 5932 Topics in Communication Theory and Research (3 credit hours)
- COM 6466 Persuasion in the Media (3 credit hours)
- COM 6815 Risk Communication (3 credit hours)
- COM 6025 Health Communication (3 credit hours)
- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- COM 6048 Communication in Close Relationships (3 credit hours)
- COM 6121 Communication Management (3 credit hours)
- COM 6145 Organizational Communication (3 credit hours)
- COM 6425 Symbolism in Terrorism (3 credit hours)
- COM 6463 Studies in Intercultural Communication (3 credit hours)
- COM 6467 Studies in Persuasion (3 credit hours)

- COM 6468 Communication and Conflict (3 credit hours)
- COM 6525 Communication Strategy and Planning (3 credit hours)
- MMC 6202 Legal and Ethical Issues for Communication (3 credit hours)
- MMC 6266 Communications Convergence and Media Planning (3 credit hours)
- MMC 6307 International Communication (3 credit hours)
- MMC 6407 Visual Communication Theory (3 credit hours)
- MMC 6567 Seminar in New Media (3 credit hours)
- MMC 6600 Media Effects and Audience Analysis (3 credit hours)
- MMC 6607 Communication and Society (3 credit hours)
- MMC 6612 Communication and Government (3 credit hours)
- MMC 6735 Social Media as Mass Communication (3 credit hours)
- PUR 6005 Theories of Public Relations (3 credit hours)
- PUR 6403 Crisis Public Relations (3 credit hours)
- PUR 6215 Communicating Corporate Social Responsibility (3 credit hours)
- PUR 6405 Communication and Public Relations in Politics and Government (3 credit hours)
- SPC 6340 Teaching Communication (3 credit hours)
- SPC 6442 Small Group Communication (3 credit hours)

Thesis Option—4 Credit Hours

On average, students take about two full semesters to complete a thesis project so students should begin the process about one year from their desired graduation date. Students begin the thesis process by selecting a thesis adviser who will serve as the Chair of the Thesis Advisory Committee. In conjunction with their thesis adviser, students will develop a topic and choose two additional members of the thesis committee. The thesis committee must be approved prior to enrolling in thesis hours. All thesis advisory committees in the Nicholson School of Communication must be chaired by a member of the NSC graduate faculty. At least one semester prior to the thesis defense, students will submit a thesis proposal. Copies of the proposal will be routed to members of their thesis committee and a proposal hearing scheduled. All students must pass a proposal hearing as well as a final oral defense of their thesis. Students who elect to write a thesis should become familiar with the university's requirements and deadlines for organizing and submitting the thesis. More information about the thesis process is available in the program handbook.

- XXX 6971 Thesis (minimum of 4 credit hours, can be taken individually)

Nonthesis Option—3 Credit Hours

The nonthesis (comprehensive examination) option is a four-examination requirement that assesses students' coursework competency. Students who choose the comprehensive examination option must take one additional elective course (three credit hours) and successfully complete the comprehensive examinations. The examinations will cover quantitative research methods, qualitative research methods, mass communication theory (i.e., the program core), and elective areas selected together by the student with her or his comprehensive examination committee. In order to fulfill the comprehensive exam requirement the student must earn a passing grade on all exams. Once an exam in an area is passed, the student does not have to sit for that exam area again. Students are allowed three attempts to satisfy the comprehensive exam requirement. Students are expected to refer to the NSC Graduate Program handbook for the comprehensive examination protocol.

- Elective (3 credit hours)
- Comprehensive examinations

Equipment Fee

Full-time students in the Communication MA program pay a $16 equipment fee each semester that they are enrolled. Part-time students pay $8 per semester.

INDEPENDENT LEARNING

Students who elect the thesis option engage in independent learning through the design and implementation of original research in the thesis process. Students who pursue the comprehensive examination option experience independent learning through their individual preparation for each of six comprehensive examinations. All students engage in independent learning in every Communication core course. A research paper or project is required in each of these classes. The papers and projects provide independent learning by requiring students to design and carry out research projects and develop analytical papers, some of which are submitted to conferences and/or journals for peer review. Internships and independent studies are also common opportunities for independent learning in the Communication MA Program.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Applicants should adhere to the application requirements outlined below. An application will not be reviewed for admission until it is verified as complete by the UCF College of Graduate Studies.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Written statement outlining the applicant's academic and professional goals.
- Two letters of recommendation attesting to the applicant's potential for academic success.

The following information is required for those who wish to be considered for funding initiated by the Nicholson School of Communication, but is recommended for all applicants:

- Additional letter of recommendation (total of three)
- Resume or Curriculum Vita

Application Deadlines

Mass Communication	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 1	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Kirsten Seitz
Program Staff
kirsten.seitz@ucf.edu
407-823-4655
NSC 143

Communication Sciences and Disorders MA

- Accelerated BA/BS to MA
- Communication Sciences and Disorders Consortium

PROGRAM DESCRIPTION

The Department of Communication Sciences and Disorders offers three plans of study leading to the Master of Arts degree: the Traditional, Consortium (summers mainly) and Accelerated programs. Each track is intended for those interested in working with children and adults who have communication disorders and is based on the same curriculum and degree requirements but allows students to follow different plans of study. Students enrolled in each track must follow a prescribed sequence of academic and clinical courses.

Each track provides academic and clinical education experiences necessary for certification by the American Speech-Language-Hearing Association (ASHA) and the Florida Department of Education, and licensure by the state of Florida. The Council on Academic Accreditation (CAA) of the ASHA has accredited the Master of Arts Degree in Communication Sciences and Disorders since 1986.

The Communication Sciences and Disorders program strives to educate students to become successful practitioners in the field of speech-language pathology. To that end, the ASHA Code of Ethics is re-enforced throughout the academic curriculum. Students who violate the ASHA Code of Ethics may be subject to academic sanctions or dismissed from the program.

The College of Education also offers the Communication Sciences and Disorders PhD track in Education. For more information, please click here.

The **Traditional** track is a two-year, full-time program (six consecutive semesters, including two summers) for students with undergraduate degrees in communication sciences and disorders or speech-language pathology and audiology. For students with undergraduate degrees in other majors (out-of-field), the program requires additional prerequisite course work. Students must begin the program in the semester for which they are admitted and must enroll full-time each semester.

The **Consortium** (summers mainly) track is a five-year program, including five consecutive summers of full-time enrollment and occasional enrollment during fall or spring semesters, with prior advisor approval from the master's program coordinator. The goal of this program is to address the critical shortage of public school speech-language pathologists and is a cooperative effort between the UCF Department of Communication Sciences and Disorders and the Central Florida Public School Consortium. Participating school districts in the Central Florida Consortium are: Brevard, Citrus, Flagler, Lake, Marion, Orange, Osceola, Seminole, Sumter, and Volusia.

The **Accelerated** track enables highly qualified current UCF undergraduate majors in communication sciences and disorders to achieve a master's degree in the UCF Department of Communication Sciences and Disorders graduate program in one less semester than students in the Traditional track. This program is a BA/BS to MA program. Students are able to enroll in 16 credit hours of graduate-level courses while completing the bachelor's degree.

CURRICULUM

The Communication Sciences and Disorders MA program consists of a minimum of 72 credit hours, including 38 credit hours of core academic courses, 9 credit hours of electives, and 25 credit hours of clinical practice. Thesis students take 6 credit hours of Thesis and one elective course (3 credit hours).

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

- To be certified to practice by the American Speech-Language-Hearing Association (ASHA), all students must have undergraduate transcript credit, which could include course work, advanced placement, CLEP, or examination equivalency, for each of the following areas: biological sciences, physical sciences, social/behavioral sciences, and statistics. Courses may consist of any number of credits and must be taken outside the discipline.
- All students must complete at least 3 credit hours in statistics with a grade of “C” or better. Undergraduate or graduate course work in statistics is a prerequisite to SPA 6805 Research in Communicative Disorders.
- The Department admits qualified in-field applicants, with an undergraduate degree in communication sciences and disorders or

speech-language pathology and audiology, and out-of-field applicants, with undergraduate degrees in other majors. Out-of-field students require an additional 32 to 35 credit hours of prerequisite course work that may be completed in approximately two semesters once admitted.

Out-of-field students must complete the following undergraduate prerequisite courses or their equivalents **once admitted**:

- STA 2014C Principles of Statistics (3 credit hours) or STA 2023 Statistical Methods I (3 credit hours)
- LIN 3713 Language Science (3 credit hours)
- LIN 3716/3716L Language Development (5 credit hours)
- SPA 3101 Physiological Bases of Speech and Hearing (3 credit hours)
- SPA 3104 Neural Bases of Communication (3 credit hours)
- SPA 3112/3112L Basic Phonetics and Lab (4 credit hours)
- SPA 3011/3011L Speech Science I: Production and Lab (4 credit hours)
- SPA 3123/3123L Speech Science II: Perception and Lab (4 credit hours)
- SPA 4032 Audiology (3 credit hours)
- SPA 4326 Hearing Disorders Across the Lifespan (3 credit hours)

Required Courses—38 Credit Hours

- SPA 6204 Articulation/Phonological Disorders (3 credit hours)
- SPA 6211C Voice Disorders (4 credit hours)
- SPA 6225C Fluency Disorders (4 credit hours)
- SPA 6236 Motor Speech Disorders in Adults and Children (3 credit hours)
- SPA 6327 Aural Habilitation/Rehabilitation (3 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)
- SPA 6496 Language Disorders in Children and Adolescents (6 credit hours)
- SPA 6559 Augmentative and Alternative Communication (3 credit hours)
- SPA 6565 Feeding and Swallowing Disorders (3 credit hours)
- SPA 6805 Research in Communicative Disorders (3 credit hours)

Clinical Practice—25 Credit Hours

Supervised clinical practice is an integral part of the graduate program in communication sciences and disorders. It provides students with an opportunity to apply classroom knowledge to the evaluation and management of individuals with a wide variety of communication disorders. Students complete three clinical practica at the UCF Communication Disorders Clinic and other affiliated facilities, as well as externships in schools, hospitals, rehabilitation centers, skilled nursing facilities, long-term care facilities, community clinics, and private practices. Through these practica and externships, students obtain a minimum of 400 clock hours of supervised clinical experience in accordance with the guidelines outlined by the American Speech-Language-Hearing Association (ASHA). Clinical practica and externships vary in length and do not always coincide with the academic calendar.

- SPA 6551 Foundations of Clinical Practice: Level I (1 credit hour)
- SPA 6503 Foundations of Clinical Practice: Level II (1 credit hour)
- SPA 6503L Foundations of Clinical Practice: Level II Application (1 credit hour, taken twice)
- SPA 6553L Clinical Practice in Differential Diagnosis in Speech and Language Pathology (1 credit hour, taken twice)
- SPA 6942 Foundations of Clinical Practice: Level III (1 credit hour)
- SPA 6942L Foundations of Clinical Practice: Level III Application (1 credit hour, taken twice)
- SPA 6943C Clinical Practice: Level I (3 credit hours)
- SPA 6946 Clinical Practice: Level II (3 credit hours)

- SPA 6946 Clinical Practice: Level III (10 credit hours)

Thesis Option—9 Credit Hours

- SPA 6971 Thesis (6 credit hours)
- Elective (3 credit hours)

Students who elect this option complete a thesis in Communication Sciences and Disorders for 6 credit hours and select one elective in consultation with a faculty adviser.

Thesis hours cannot be counted toward graduation requirements if students fail to complete or successfully defend their thesis. For additional information, thesis students and their advisory committees should refer to the thesis requirements in the UCF Graduate Catalog.

Nonthesis Option—9 Credit Hours

- Electives (9 credit hours)

Students who elect this option must select three electives in consultation with a faculty adviser.

Comprehensive Examination

Passing a Departmental Comprehensive Examination is a requirement for completion of the master's degree in communication sciences and disorders.

Equipment Fee

Students in the Communication Sciences and Disorders MA Program pay a $90 equipment fee each semester they are enrolled.

Additional Program Costs

The program requires students to pay additional fees for the required background checks, clinic uniform, and registration for the academic/clinical competencies tracking system.

Sample Plan of Study for the Traditional Program

The Traditional MA program requires a prescribed sequence of academic and clinical courses which may vary according to the semester of entry. The following is a sample plan of study.

Semester 1

- SPA 6204 Articulation/Phonological Disorders (3 credit hours)
- SPA 6211C Voice Disorders (4 credit hours)
- SPA 6496 Language Disorders in Children and Adolescents (6 credit hours)
- SPA 6551 Foundations of Clinical Practice: Level I (1 credit hour)

Semester 2

- SPA 6225C Fluency Disorders (4 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6559 Augmentative and Alternative Communication Systems (3 credit hours)
- SPA 6503 Foundations of Clinical Practice: Level II (1 credit hour)
- SPA 6503L Foundations of Clinical Practice: Level II Application (enroll in two 1 credit hour classes)

Semester 3

- SPA 6327 Aural Habilitation/Rehabilitation (3 credit hours)
- SPA 6565 Feeding and Swallowing Disorders (3 credit hours)
- SPA 6805 Research in Communicative Disorders (3 credit hours)

- SPA 6942 Foundations of Clinical Practice: Level III (1 credit hour)
- SPA 6942L Foundations of Clinical Practice: Level III Application (enroll in two 1 credit hour classes)
- SPA 6553L Clinical Practice in Differential Diagnosis in Speech and Language Pathology (1credit hour, taken twice)*

Semester 4

- SPA 6236 Motor Speech Disorders in Adults and Children (3 credit hours)
- SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)
- SPA 6943C Clinical Practice: Level I (3 credit hours)
- Elective (3 credit hours)

Semester 5

- SPA 6946 Clinical Practice: Level II (3 credit hours)
- Elective (3 credit hours)
- Elective (3 credit hours)

Semester 6

- SPA 6946 Clinical Practice: Level III (10 credit hours)

*SPA 6553L must be taken in two semesters during either the third, fourth or fifth semesters.

INDEPENDENT LEARNING

All students in the Master of Arts in Communication Sciences and Disorders program engage in independent learning through inquiry, dialogue, and practice. Experiences such as client case studies, scholarly reviews, research projects, clinical practica and externships provide students independent learning opportunities to attain knowledge, skills, and professional behaviors. In capstone externships, students bridge university classroom and clinic lessons to real-world educational and health-related settings.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score obtained within the last five years, three letters of recommendation, a letter of intent describing educational background, professional experiences, future goals, and how you will embody and uphold the ASHA Code of Ethics (http://www.asha.org/code-of-ethics/) in your professional career; and a résumé.

The Master of Arts in Communication Sciences and Disorders program at UCF participates in the Communication Sciences and Disorders Centralized Application Service, known as CSDCAS. Prospective students applying to the Communication Sciences and Disorders MA program for the Spring 2017 entering class and beyond must apply online using the CSDCAS application. To learn more about the CSDCAS application process, visit http://www.capcsd.org/csdcas-student-page/

Entry Terms: The program only accepts one application from each prospective student per application deadline. For the February 1 deadline, applicants must choose to apply for either the Summer or Fall semester. However, applicants may apply for spring (October 1 deadline), regardless if they have applied for admission in other terms.

Step 1: Complete the CSDCAS application for the UCF program

- Completed CSDCAS Application (https://csdcas.liaisoncas.com/applicant-ux/#/login)
- One official transcripts (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score (verbal, quantitative, and written) obtained within the last five years. Use GRE CODE for UCF

CSDCAS: **7407**. (Do not use the "Institution Code" for GRE listed to the right).

- Three (3) letters of recommendation with CSDCAS recommendation forms, preferably two from former faculty members. Letters of recommendation cannot be dated more than one year prior to the date of the application deadline.
- A letter of intent describing educational background, professional experiences, future goals, and how you will embody and uphold the ASHA Code of Ethics (http://www.asha.org/code-of-ethics/) in your professional career
- A current resume.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- All international students must meet university minimum TOEFL score requirements regardless of language in which the undergraduate program was completed.

Incomplete applications will NOT be reviewed.

All application materials MUST be sent directly to CSDCAS. Materials sent to the university or program will not be accepted. Application materials must be received by CSDCAS no later than October 1st for Spring admission and February 1st for Summer and Fall admission.

Step 2: Complete University of Central Florida's Graduate School application

In addition to your CSDCAS application, applicants must also submit a UCF application for graduate admission at https://application.graduate.ucf.edu/. Supporting documents (i.e. transcripts,test scores, etc.) do not need to be submitted to UCF directly. University applications must also be submitted by the stated application deadlines.

Admission to the Communication Sciences and Disorders program is granted on a competitive basis. Approximately thirty-five (35) students are admitted each semester. Meeting the minimum admission requirements does not guarantee admission to the program. The recent class statistics are listed on the Graduate Program Profile webpage. Additionally, the program reserves the right to deny admission or dismiss a student after admission to the program if, in the judgment of the faculty, the student fails to demonstrate and/or uphold the ASHA Code of Ethics (http://www.asha.org/code-of-ethics/) during coursework and/or practice in the field. A background check is required for all new students during their first semester in the program. All applicants and admitted students must perform certain Essential Functions in order to participate and complete program requirements.

Application Deadlines

Communication Sciences and Disorders MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 1	Oct 1	Feb 1
International Applicants	Dec 15	Dec 15	Jul 1	Nov 1
International Transfer Applicants	Dec 15	Dec 15	Jul 1	Nov 1

CONTACT INFO

Linda I Rosa-Lugo EdD
Associate Professor
Program Director
csdgraduate@ucf.edu
407-823-4798
HPA2 101

Communication Sciences and Disorders MA

Accelerated BA/BS to MA

TRACK DESCRIPTION

The Department of Communication Sciences and Disorders offers an Accelerated BA/BS to MA Track for highly qualified UCF undergraduate majors in communication sciences and disorders that enables them to complete a master's degree in one less semester than students in the Traditional Track. The program is intended for those interested in working with children and adults who have communication disorders. Once students complete the BA/BS, they must apply and be admitted to the master's degree program and follow a prescribed sequence of academic and clinical courses.

The Communication Sciences and Disorders program strives to educate students to become successful practitioners in the field of speech-language pathology. To that end, the American Speech-Language-Hearing Association (ASHA) Code of Ethics is re-enforced throughout the academic curriculum. Students who violate the ASHA Code of Ethics may be subject to academic sanctions or dismissed from the program.

The College of Education also offers the Communication Sciences and Disorders track in PhD in Education. For more information, please visit the graduate catalog.

CURRICULUM

The Department of Communication Sciences and Disorders offers an Accelerated BA/BS to MA program for highly qualified undergraduate majors in communication sciences and disorders. Undergraduate students enroll in 16 credit hours of graduate-level courses while completing the bachelor's degree. This enables students to achieve a master's degree in the UCF Department of Communication Sciences and Disorders in one less semester.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Up to 16 credit hours of approved 6000-level courses, with grades of "B" (3.0) or better, may be counted toward the BA/BS and MA degrees. Additional requirements include:

- Adopting the most current catalog for students changing degree programs.
- Earning at least a "B" (3.0) in each undergraduate and graduate course to be counted toward the major.
- Being assessed tuition and fees at the graduate rate for graduate courses.

Undergraduate Requirements

The Shared Courses below replace:

- SPA 4400 Language Disorders Across the Life Span
- SPA 4476 Speech Disorders Across the Life Span
- SPA 4478 Multicultural Aspects of Communication Disorders and Differences

- SPA 4803 Research Methods in Communication Sciences and Disorders
- SPA 4870 Capstone Course
- one restricted elective in the undergraduate curriculum

Shared Courses

- SPA 6204 Articulation/Phonological Disorders (3 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6496 Language Disorders in Children and Adolescents (6 credit hours)
- SPA 6551 Foundations of Clinical Practice: Level I (1 credit hour)
- SPA 6805 Research in Communicative Disorders (3 credit hours)

Required Courses—38 Credit Hours

- SPA 6204 Articulation/Phonological Disorders (3 credit hours)
- SPA 6211C Voice Disorders (4 credit hours)
- SPA 6225C Fluency Disorders (4 credit hours)
- SPA 6236 Motor Speech Disorders in Adults and Children (3 credit hours)
- SPA 6327 Aural Habilitation/Rehabilitation (3 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)
- SPA 6496 Language Disorders in Children and Adolescents (6 credit hours)
- SPA 6559 Augmentative and Alternative Communication (3 credit hours)
- SPA 6565 Feeding and Swallowing Disorders (3 credit hours)
- SPA 6805 Research in Communicative Disorders (3 credit hours)

Clinical Practice—25 Credit Hours

Supervised clinical practice is an integral part of the graduate program in communication sciences and disorders. It provides students with an opportunity to apply classroom knowledge to the evaluation and management of individuals with a wide variety of communication disorders. Students complete three clinical practica at the UCF Communication Disorders Clinic and other affiliated facilities, as well as externships in schools, hospitals, rehabilitation centers, skilled nursing facilities, long-term care facilities, community clinics, and private practices. Through these practica and externships, students obtain a minimum of 400 clock hours of supervised clinical experience in accordance with the guidelines outlined by the American Speech-Language-Hearing Association (ASHA). Clinical practica and externships vary in length and do not always coincide with the academic calendar.

- SPA 6551 Foundations of Clinical Practice: Level I (1 credit hour)
- SPA 6503 Foundations of Clinical Practice : Level II (1 credit hour)
- SPA 6503L Foundations of Clinical Practice: Level II Application (enroll in two 1 credit hour lab classes)
- SPA 6553L Clinical Practice in Differential Diagnosis in Speech and Language Pathology (1 credit hour, taken twice in two different semesters)
- SPA 6942 Foundations of Clinical Practice: Level III (1 credit hour)
- SPA 6942L Foundations of Clinical Practice: Level III Application (enroll in two 1 credit hour lab classes)
- SPA 6943C Clinical Practice: Level I (3 credit hours)
- SPA 6946 Clinical Practice: Level II (3 credit hours)
- SPA 6946 Clinical Practice: Level III (10 credit hours)

Thesis Option—9 Credit Hours

- SPA 6971 Thesis (6 credit hours)
- Elective (3 credit hours)

Students who elect this option complete a thesis in Communication Sciences and Disorders for 6 credit hours and select one elective in consultation with a faculty adviser.

Thesis hours cannot be counted toward graduation requirements if students fail to complete or successfully defend their thesis. For additional information, thesis students and their advisory committees should refer to the thesis requirements in the UCF Graduate Catalog.

Nonthesis Option—9 Credit Hours

- Electives (9 credit hours)

Students who elect this option must select three electives in consultation with a faculty adviser.

Comprehensive Examination

Passing a Departmental Comprehensive Examination is a requirement for completion of the master's degree in communication sciences and disorders.

Equipment Fee

Students in the Communication Sciences and Disorders MA Program pay a $90 equipment fee each semester they are enrolled.

Additional Program Costs

The program requires students to pay additional fees for the required background checks, clinic uniform, and registration for the academic/clinical competencies tracking system.

APPLICATION REQUIREMENTS

In addition to general admission requirements, applicants must provide an official, competitive GRE score obtained within the last five years; at least a 3.7 GPA in communication sciences and disorders course work earned at the University of Central Florida; three letters of recommendation; a letter of intent describing educational background, professional experiences, future goals, and how you will embody and uphold the ASHA Code of Ethics (http://www.asha.org/code-of-ethics/) in your professional career; and a résumé.

The Accelerated B.A./B.S. to M.A. track in Communication Sciences and Disorders allows highly qualified University of Central Florida undergraduate majors in Communication Sciences and Disorders to begin taking graduate level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the Accelerated Track either in the last semester of their sophomore year or the first semester of their junior year.

Applicants must submit a hard copy (paper) application for the bachelor's program directly to the Department of Communication Sciences and Disorders. Please contact the department for the appropriate application form. An electronic application for admission to the graduate program must be submitted during the senior year of the bachelor's program.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- 3.7 GPA or higher in communication sciences and disorders course work earned at the University of Central Florida.
- Official, highly competitive GRE score obtained within the last five years.
- Three letters of recommendation from faculty in the department.
- Résumé.
- A letter of intent describing educational background, professional experiences, future goals, and how you will embody and uphold the ASHA Code of Ethics (http://www.asha.org/code-of-ethics/) in your professional career.

A formal admission decision for the master's program will be made following receipt of the bachelor's degree. Successful completion of the bachelor's degree does not guarantee admission to the master's program. The Communication Sciences and Disorders program reserves the right to deny admission or dismiss a student after admission to the program if, in the judgment of the faculty, the student fails to demonstrate and/or uphold the ASHA Code of Ethics (http://www.asha.org/code-of-ethics/) in coursework or practice in the field. A background check is required for all new students during their first semester in the master's program.

Application Deadlines

Accelerated BA/BS to MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 1	Oct 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Linda I Rosa-Lugo EdD
Associate Professor
Program Director
csdgraduate@ucf.edu
407-823-4798
HPA2 101

Communication Sciences and Disorders MA

Communication Sciences and Disorders Consortium

TRACK DESCRIPTION

The Department of Communication Sciences and Disorders offers the Consortium track leading to the Master of Arts in Communication Sciences and Disorders.

The Consortium track is designed specifically for students with a bachelor’s degree in communication sciences and disorders or speech-language pathology and audiology who currently work in participating central Florida public school districts and have been providing speech and language services for at least one semester prior to application.

The goal of this program is to address the critical shortage of public school speech-language pathologists. It represents a cooperative effort between the UCF Department of Communication Sciences and Disorders and the Central Florida Public School Consortium. Participating school districts in the Central Florida Consortium are: Brevard, Citrus, Flagler, Lake, Marion, Orange, Osceola, Seminole, Sumter, and Volusia.

The Communication Sciences and Disorders program strives to educate students to become successful practitioners in the field of speech-language pathology. To that end, the American Speech-Language-Hearing Association (ASHA) Code of Ethics is re-enforced throughout the academic curriculum. Students who violate the ASHA Code of Ethics may be subject to academic sanctions or dismissed from the program.

CURRICULUM

The Consortium track in the Communication Sciences and Disorders MA program consists of a minimum of 72 credit hours, including 38 credit hours of core academic courses, 9 credit hours of thesis or electives, and 25 credit hours of clinical practice. With regard to requirements for clinical practice, Consortium track students typically complete the full-time clinical practice externship prior to the part-time externship. The full-time externship must be completed in a school setting that is different from the practitioner's primary employment setting.

Total Credit Hours Required:

72 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

All students must complete at least 3 credit hours in statistics with a grade of "C" or better. Undergraduate course work in statistics is a prerequisite to SPA 6805 Research in Communicative Disorders.

To be certified to practice by the American Speech-Language-Hearing Association (ASHA), all students must have undergraduate transcript credit, which could include course work, advanced placement, CLEP, or examination equivalency, for each of the following areas: biological sciences, physical sciences, social/behavioral sciences, and statistics. Courses may consist of any number of credits and must be taken outside the discipline.

Required Courses—38 Credit Hours

- SPA 6204 Articulation/Phonological Disorders (3 credit hours)
- SPA 6211C Voice Disorders (4 credit hours)
- SPA 6225C Fluency Disorders (4 credit hours)
- SPA 6236 Motor Speech Disorders in Adults and Children (3 credit hours)
- SPA 6327 Aural Habilitation/Rehabilitation (3 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)
- SPA 6496 Language Disorders in Children and Adolescents (6 credit hours)
- SPA 6559 Augmentative and Alternative Communication (3 credit hours)
- SPA 6565 Feeding and Swallowing Disorders (3 credit hours)
- SPA 6805 Research in Communicative Disorders (3 credit hours)

Clinical Practice—25 Credit Hours

Supervised clinical practice is an integral part of the graduate program in communication sciences and disorders. It provides students with an opportunity to apply classroom knowledge to the evaluation and management of individuals with a wide variety of communication disorders. Students complete three clinical practica at the UCF Communication Disorders Clinic and other affiliated facilities, as well as externships in schools, hospitals, rehabilitation centers, skilled nursing facilities, long-term care facilities, community clinics, and private practices. Through these practica and externships, students obtain a minimum of 400 clock hours of supervised clinical experience in accordance with the guidelines outlined by the American Speech-Language-Hearing Association (ASHA). Clinical practica and externships vary in length and do not always coincide with the academic calendar.

- SPA 6551 Foundations of Clinical Practice: Level I (1 credit hour)
- SPA 6503 Foundations of Clinical Practice: Level II (1 credit hour)
- SPA 6503L Foundations of Clinical Practice: Level II Application (1 credit hour, taken twice)
- SPA 6553L Clinical Practice in Differential Diagnosis in Speech and Language Pathology (1 credit hour, taken twice)
- SPA 6942 Foundations of Clinical Practice: Level III (1 credit hour)
- SPA 6942L Foundations of Clinical Practice: Level III Application (1 credit hour, taken twice)
- SPA 6943C Clinical Practice: Level I (3 credit hours)
- SPA 6946 Clinical Practice: Level II (3 credit hours)
- SPA 6946 Clinical Practice: Level III (10 credit hours)

Thesis Option—9 Credit Hours

- SPA 6971 Thesis (6 credit hours)
- Elective (3 credit hours)

Students who elect this option complete a thesis in Communication Sciences and Disorders for 6 credit hours and select one elective in consultation with a faculty adviser.

Thesis hours cannot be counted toward graduation requirements if students fail to complete or successfully defend the thesis. For additional information, thesis students and their advisory committees should refer to the thesis requirements in the UCF Graduate Catalog.

Nonthesis Option—9 Credit Hours

- Electives (9 credit hours)

Students who elect this option must select three electives in consultation with a faculty adviser.

Comprehensive Examination

Passing a Departmental Comprehensive Examination is a requirement for completion of the master's degree in communication sciences and disorders.

Equipment Fee

Students in the Communication Sciences and Disorders MA Program pay a $90 equipment fee each semester that they are enrolled.

Additional Program Costs

The program requires students to pay additional fees for the required background checks, clinic uniform, and registration for the academic/clinical competencies tracking system.

Sample Plan of Study for the Consortium Program with a Nonthesis Option

The Consortium Track requires a prescribed sequence of academic and clinical courses that may vary. Students must meet with the Master's Program Coordinator and Consortium Coordinator to devise a program of study. The following is a sample plan of study.

Summer Semester 1

- SPA 6204 Articulation/Phonological Disorders (3 credit hours)
- SPA 6211C Voice Disorders (4 credit hours)
- SPA 6496 Language Disorders in Children and Adolescents (6 credit hours)
- SPA 6551 Foundations of Clinical Practice: Level I (1 credit hour)

Summer Semester 2

- SPA 6225C Fluency Disorders (4 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6559 Augmentative and Alternative Communication Systems (3 credit hours)
- SPA 6503 Foundations of Clinical Practice: Level II (1 credit hour)
- SPA 6503L Foundations of Clinical Practice: Level II Application (enroll in two 1 credit hour lab classes)

Summer Semester 3

- SPA 6327 Aural Habilitation/Rehabilitation (3 credit hours)
- SPA 6565 Feeding and Swallowing Disorders (3 credit hours)
- SPA 6805 Research in Communicative Disorders (3 credit hours)
- SPA 6942 Foundations of Clinical Practice: Level III (1 credit hour)
- SPA 6942L Foundations of Clinical Practice: Level III Application (enroll in two 1 credit hour lab classes)
- SPA 6553L Clinical Practice in Differential Diagnosis in Speech and Language Pathology (1 credit hour, taken twice)*

Summer Semester 4

- SPA 6236 Motor Speech Disorders in Adults and Children (3 credit hours)
- SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)
- SPA 6943C Clinical Practice: Level I (3 credit hours)
- Elective (3 credit hours)

Semester 5 (Fall)

- SPA 6946 Clinical Practice: Level III (10 credit hours)

Summer Semester 6

- SPA 6946 Clinical Practice: Level II (3 credit hours)
- Elective (3 credit hours)
- Elective (3 credit hours)

*SPA 6553L must be taken in two semesters during either the third, fourth, or fifth semesters.

Students in the Consortium Track complete their full-time clinical practice externship in the fall after the fourth summer semester.

Please direct any questions to Dr. Linda I. Rosa-Lugo, UCF Consortium Faculty Coordinator, at (407) 823-4798 or lrosalugo@ucf.edu.

INDEPENDENT LEARNING

All students in the master of arts in communication sciences and disorders program engage in independent learning through inquiry, dialogue, and practice. Experiences such as client case studies, scholarly reviews, research projects, clinical practica and externships provide students independent learning opportunities to attain knowledge, skills and professional behaviors. In capstone externships, students bridge university classroom and clinic lessons to real-world educational and health-related settings

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score obtained within the last five years; three letters of recommendation; a letter of intent describing educational background, professional experiences, future goals, and how the applicant would embody and uphold the ASHA Code of Ethics in their professional career; and a résumé.

The Master of Arts in Communication Sciences and Disorders program at UCF participates in the Communication Sciences and Disorders Centralized Application Service, known as CSDCAS. Prospective students applying to the Communication Sciences and Disorders MA program must apply online using the CSDCAS application. To learn more about the CSDCAS application process, visit http://www.capcsd.org/csdcas-student-page/

Entry Terms: The Consortium track admits for summer term only. Please note that admission is granted for the summer term only and for this specific track only. Applicants may not change start terms or tracks after an admission decision has been made. If the applicant determines that they cannot accept the offer of admission as presented in the admission letter, they must rescind the offer and may apply to the desired track in the next admissions cycle.

Step 1: Complete the CSDCAS application for UCF

- Completed CSDCAS Application (https://csdcas.liaisoncas.com/applicant-ux/#/login)
- One official transcript (in a sealed envelop) from each college/university attended.
- Official, competitive GRE score (verbal, quantitative, and written) obtained within the last five years. Use **GRE CODE for UCF CSDCAS: 7407**. (Do not use the "Institution Code" for GRE listed to the right side of this page).
- Three (3) letters of recommendation with CSDCAS recommendation forms. One of the three letters of recommendation must be from the district school administrator or program specialist of the Speech-Language Program of the employing school district, one from the school principal, and one from a former professor. Letters of recommendation cannot be dated more than one year prior to the date of the application deadline.

- A letter of intent describing educational background, professional experiences, future goals, and how you will embody and uphold the ASHA Code of Ethics (http://www.asha.org/code-of-ethics/) in your professional career
- A current resume.

Incomplete applications will NOT be reviewed.

All application materials MUST be sent directly to CSDCAS. Materials sent to the university or program will not be accepted. Application materials must be received by CSDCAS no later than February 1st for Summer admission.

Step 2: Complete University of Central Florida's Graduate School application

In addition to the CSDCAS application, applicants must also submit a UCF application for graduate admission at https://application.graduate.ucf.edu/. Supporting documents (i.e. transcripts,test scores, etc.) do not need to be submitted to UCF directly. University applications must also be submitted by the stated application deadlines.

Admission to the Communication Sciences and Disorders program is granted on a competitive basis. Approximately thirty-five (35) students are admitted each semester. Meeting the minimum admission requirements does not guarantee admission to the program. The recent class statistics are listed on the Graduate Program Profile webpage. Additionally, the program reserves the right to deny admission or dismiss a student after admission to the program if, in the judgment of the faculty, the student fails to demonstrate and/or uphold the ASHA Code of Ethics (http://www.asha.org/code-of-ethics/) during coursework and/or practice in the field. A background check is required for all new students during their first semester in the program. All applicants and admitted students must perform certain Essential Functions in order to participate and complete program requirements.

Application Deadlines

Communication Sciences and Disorders Consortium	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				Nov 1
International Transfer Applicants				Dec 15

CONTACT INFO

Linda I Rosa-Lugo EdD
Associate Professor
Program Director
csdgraduate@ucf.edu
407-823-4798
HPA2 101

Computer Engineering MSCpE

- Accelerated BS to MSCpE

PROGRAM DESCRIPTION

The Computer Engineering MSCpE degree offers programs in a number of technical (research) areas, such as Computer Networks and Computer Security (CNCS), Computer Systems and VLSI Design (CS/VLSI), Intelligent Systems and Machine Learning (ISML), and Software Systems and Algorithms (SSA). All programs offer a thesis option and a nonthesis option, as well as an Accelerated BS to MS program. Students in the program receive a broad background in the various technical areas, while specializing in a research area of their interest.

The specific research areas that each one of the EE faculty focuses on can be found at the Department of Electrical Engineering website (www.ece.ucf.edu/).

CURRICULUM

The master's program offers both thesis and nonthesis options in four technical specialization areas. The thesis option requires 30 credit hours of courses that includes 24 credit hours of formal coursework, exclusive of thesis and research, plus 6 credit hours of thesis. The nonthesis option requires 30 credit hours of coursework with at least 24 credit hours of formal coursework and a possibility of 6 credit hours of Independent Study (XXX 6908) based on the availability of interested faculty.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

The master's program offers both thesis and nonthesis options in four technical specialization areas. The thesis option requires 30 credit hours of courses that includes 24 credit hours of formal coursework, exclusive of thesis and research, plus 6 credit hours of thesis. The nonthesis option requires 30 credit hours of coursework with at least 24 credit hours of formal coursework and a possibility of 6 credit hours of Independent Study (XXX 6908) based on the availability of interested faculty.

Articulation Courses

Undergraduate articulation courses are required for students with bachelor's degrees in fields other than Computer Engineering. In general, all students must have completed the following undergraduate courses (or their equivalents in an accredited BSCpE program) before admission to our graduate program. Students who have take these courses must complete the articulation courses listed below, plus all prerequisites, that they require. Grades of "B" or higher must be obtained in each articulation course. Articulation courses are not eligible for inclusion on a student's Graduate Program of Study.

- EEE 3342C: Digital Systems
- EEL 3801: Computer Organization
- COP 3502: Computer Science I
- COP 3503: Computer Science II

Plus choose ONE of the following:

- COP 4331: Processes for Object-Oriented Development

- EEL 4768C: Computer Architecture
- EEL 4781: Computer Communications Networks

Elective Courses—24 Credit Hours

There are no required courses within a specialization area. However, all students (thesis and nonthesis) must choose at least 24 credit hours of formal courses, excluding research-related courses and independent study (XXX 6908), which emphasize their specialization area. Courses from outside specialization areas could also be chosen if the student's adviser approves such a Program of Study.

The Program of Study (POS) form must be approved by an adviser in the selected specialization area no later than the end of the second semester after admission. The program of study must meet all the university requirements specified in the graduate catalog and must also receive departmental-level and college-level approval.

Specialization Areas

The Computer Engineering Program supports a number of specialization areas. These specialization areas are (in alphabetical order): Computer Networks and Computer Security (CNCS), Computer Systems and VLSI Design (CS/VLSI), Intelligent Systems and Machine Learning (ISML), and Software Systems and Algorithms (SSA).

In each one of these areas there is a suggested list of courses Students are also allowed to take courses from the suggested list of courses in areas other than their specialization area, but the majority of their courses should be chosen from courses in their specialization area.

Computer Networks and Computer Security (CNCS)

- CDA 5106 Advanced Computer Architecture (3 credit hours)
- CDA 5110 Parallel Processing (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CNT 5008 Computer Communication Network Architecture (3 credit hours)
- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection, and Forensics Analysis (3 credit hours)
- CNT 6519 Wireless Security and Forensics (3 credit hours)
- CNT 6707 Advanced Computer Networks (3 credit hours)
- COP 5537 Network Optimization (3 credit hours)
- COP 5611 Operating Systems (3 credit hours)
- CAP 6133 Advanced Topics in Computer Security and Forensics (3 credit hours)
- CAP 6135 Malware and Software Vulnerability Analysis (3 credit hours)
- COT 5405 Theory and Analysis of Algorithms (3 credit hours)
- EEE 5542 Random Processes I (3 credit hours)
- EEL 5780 Wireless Networks (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6788 Advanced Topics in Wireless Networks (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- EEL 6897 Software Development for Real-Time Engineering Systems (3 credit hours)

Computer Systems and Very Large Scale Integration (CS/VLSI)

- CDA 5106 Advanced Computer Architecture I (3 credit hours)

- CDA 5110 Parallel Architecture and Algorithms (3 credit hours)
- CDA 6107 Parallel Computer Architecture (3 credit hours)
- CDA 6938 Multi-Core Architecture and Programming (3 credit hours)
- COP 5537 Network Optimization (3 credit hours)
- COT 6415 Complexity of Parallel Computation (3 credit hours)
- EEE 5390C Full Custom-VLSI Design (3 credit hours)
- EEL 5704 Computer Aided Logical Design (3 credit hours)
- EEL 5722C Field Programmable Gate Array (FPGA) Design (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEE 6327 Design of Video Coding Systems (3 credit hours)
- ECM 6308 Current Topics in Parallel Processing (3 credit hours)

Intelligent Systems and Machine Learning (ISML)

- CAP 5055 AI for Game Programming (3 credit hours)
- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 5610 Machine Learning (3 credit hours)
- CAP 5636 Advanced Artificial Intelligence (3 credit hours)
- CAP 6545 Machine Learning Methods for Bioinformatics (3 credit hours)
- CAP 6616 Neuro-Evolution and Generative Developmental Systems (3 credit hours)
- CAP 6640 Computer Understanding of Natural Language (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents and Humans (3 credit hours)
- CAP 6675 Complex Adaptive Systems (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6769 Parallel Knowledge Processing Systems (3 credit hours)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 6875 Autonomous Agents (3 credit hours)
- EEL 6876 Current Topics in Artificial Intelligence (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)

Software Systems and Algorithms (SSA)

- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CGS 5131 Computer Forensics I (3 credit hours)
- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection, and Forensics Analysis (3 credit hours)
- CAP 5510 Bioinformatics (3 credit hours)
- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)
- CAP 6545 Machine Learning Methods for Bioinformatics (3 credit hours)
- CEN 5016 Software Engineering (3 credit hours)
- CEN 6075 Formal Specification of Software Systems (3 credit hours)
- COP 5021 Program Analysis (3 credit hours)
- COP 5711 Parallel and Distributed Database Systems (3 credit hours)
- COP 6730 Transaction Processing (3 credit hours)
- COP 6731 Advanced Database Systems (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- COT 6410 Computational Complexity (3 credits)
- COT 6417 Algorithms on Strings and Sequences (3 credit hours)
- COT 6600 Quantum Computing (3 credit hours)
- COT 6602 Introduction to Quantum Information Theory (3 credit hours)
- EEL 5881 Software Engineering I (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)

Thesis Option—6 Credit Hours

- EEL 6971 Thesis (6 credit hours)

The thesis option requires 24 credit hours of formal coursework in one of the specialization areas and the completion of 6 credit hours of thesis.
Additional requirements are as follows:

- Courses must be chosen from the suggested list of courses for the student's chosen specialization area
- No more than 6 credits of thesis (XXX 6971) will be counted toward the degree requirement
- Fifteen credit hours (including EEL 6971 Thesis) must be 6000-level courses
- Thesis students who are full time must continue to enroll in three credit hours of thesis coursework each semester until the thesis requirement is satisfied, even if they take more than the required 6 credit hours of thesis. However, only 6 credit hours of thesis will count toward the degree requirement.

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

The nonthesis option is especially suitable for part-time students. Nonthesis students must complete 6 credit hours of electives in addition to the 24 credit hours of formal coursework described above. If desired by the student and approved by the student's adviser a total of 6 credit hours can be Independent Study (XXX 6908).

- Electives (6 credit hours)

Portfolio Requirement

Students are required to complete a culminating experience. The culminating experience for nonthesis MS students is submission of their portfolio of activities by the course Withdrawal Date of the semester prior to their intended graduation. The portfolio requirements are listed on the EECS website at www.eecs.ucf.edu.

Transfer Credits

Graduate students with a bachelor's degree in Computer Engineering from UCF may transfer up to 9 credit hours of 5000-level or higher coursework, with grades of "B" or higher, toward the MSCpE degree. Alternatively, a maximum of 9 credit hours may be transferred of graduate work conducted elsewhere from an accredited institution.

Equipment Fee

Students in the Computer Engineering MSCpE program pay a $28 equipment fee each semester that they are enrolled. Part-time students pay $14 per semester.

INDEPENDENT LEARNING

The independent learning requirement is met by successful completion of a master's thesis or an approved portfolio of activities for nonthesis students.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor's degree in computer engineering or a closely related discipline, an official, competitive GRE score taken within the last five years, résumé, a statement of educational, research, and professional career objectives, and two letters of recommendation.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in computer engineering or a closely related discipline.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting applicants into their research program.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

Application Deadlines

Computer Engineering MSCpE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Kalpathy Sundaram PhD
Professor
Program Director
eecpe-grad@eecs.ucf.edu
407-823-5326
HEC 439B

Computer Engineering MSCpE

Accelerated BS to MSCpE

TRACK DESCRIPTION

The accelerated undergraduate/graduate program in Computer Engineering allows highly qualified undergraduate majors in Computer engineering to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate degree program.

Research interests of the Computer Engineering faculty include digital systems, computer architecture, software engineering, artificial intelligence, expert systems, modeling and simulation, computer networking and ubiquitous computing, computer vision, and very large-scale integration (VLSI) systems.

CURRICULUM

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Up to 12 credit hours of approved 5000- and 6000-level courses of grades "B" (3.0) or better may be counted toward the BS and MS degrees.

Undergraduate Requirements

Application must be made no earlier than the semester after completing 60 credit hours toward the bachelor's degree yet before completing 90 credit hours toward the bachelor's degree. A minimum GPA of 3.5 is required prior to admission.

Graduate Requirements

A complete application to the master's degree program must be received before admission deadlines of the semester in which the master's enrollment will commence. Students must satisfy all requirements for master's admission in order to continue in the program once the bachelor's degree is awarded. At the time of application for master's admission, students must specify BSMS-Accelerated as the master's degree track on their graduate admission application for the MSCpE program.

Equipment Fee

Students in the Computer Engineering MSCpE program pay a $23 equipment fee each semester that they are enrolled. Part-time students pay $11 per semester.

INDEPENDENT LEARNING

The independent learning requirement is met by successful completion of a master's thesis or an approved portfolio of activities for nonthesis students.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor's degree in computer engineering or a closely related discipline, an official, competitive GRE score taken within the last five years, résumé, a statement of educational, research, and professional career objectives, and two letters of recommendation.

The **Accelerated BS to MS program** in Computer Engineering allows highly qualified University of Central Florida undergraduate majors in Computer Engineering to begin taking graduate level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to the **Computer Engineering Program** without a track selection. Additional information about this track may be located at: http://www.cecs.ucf.edu/current-students/bs-ms-program.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in computer engineering or a closely related discipline.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

Application Deadlines

Accelerated BS to MSCpE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	

International Applicants				
International Transfer Applicants				

CONTACT INFO

Kalpathy Sundaram PhD
Professor
Program Director
eecpe-grad@eecs.ucf.edu
407-823-5326
HEC 439B

Computer Science MS

- Accelerated BS to MS

PROGRAM DESCRIPTION

The Master of Science in Computer Science program produces graduates with a high level of competency in understanding, applying, and enunciating the modern concepts, principles, methods, and theories necessary for the design and implementation of computing systems.

The Master of Science in Computer Science program provides students with an in-depth education geared toward meeting the needs of business and industry in Florida and throughout the United States. The program's goal is to produce graduates with a high level of competency in understanding, applying, and enunciating the modern concepts, principles, methods, and theories necessary for the design and implementation of computing systems.

Students in the program receive a broad background in the areas of programming systems and languages, computer architecture, and computer science theory while specializing in a research area. Research interests of the computer science faculty include affective computing, applied perception, bioinformatics, computational biology, computational geometry, computer and network security, computer architecture, computer forensics, computer graphics, computer networks, image processing, computer vision, cryptography, data compression, database management systems, data mining, design and analysis of algorithms, evolutionary computation, genetic algorithms, graph theory, hardware/software co-design, machine learning, mixed and virtual reality, mobile computing, modeling and simulation, multimedia systems, natural language processing, neural networks, parallel and distributed processing, performance evaluation, programming languages, quantum computing, semantic web, software agents, software engineering, and VLSI systems. The program has a long and respected history, having conferred MS degrees since 1968.

Students successfully completing this program will have exhibited breadth as well as depth of capability involving both theoretical aspects of computer science and practical considerations of computing.

CURRICULUM

The Computer Science MS program offers both a thesis and nonthesis option with each option requiring a minimum of 30 credit hours beyond the bachelor's degree. At least half of these hours must be at the 6000 level. Both options require 12 credit hours of required core courses and thesis students must take 12 credit hours of electives and a minimum of 6 credit hours of thesis. Nonthesis students must take 18 credit hours of electives and complete a culminating experience as determined by the program's graduate committee. Students must receive a 3.0 GPA or higher in all courses.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

An undergraduate degree in Computer Science is desirable but not required. Applicants without a strong undergraduate background in Computer Science must demonstrate an understanding of the material covered in the following upper-division undergraduate courses:

- EEL 4768C Computer Architecture
- COP 4020 Programming Languages I
- COP 4600 Operating Systems
- COT 4210 Discrete Computational Structures

Required Courses—12 Credit Hours

- CDA 5106 Advanced Computer Architecture I (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- Any approved pair of Computer Science courses from a single research area that includes at least one 6000-level course (6 credit hours)

Examples of approved pairs include (but not limited to):

- Operating Systems (OS) area (COP 5611 and COP 6614)
- Computer Graphics area (CAP 5725 and CAP 6701)
- Machine Learning area (CAP 5610 or CAP 5512 and CAP 6616 or CAP 6545)
- Artificial Intelligence (AI) area (CAP 5636 and CAP 6640 or CAP 6676)
- Computer Vision area (CAP 5415 and CAP 6411 or CAP 6412 or CAP 6419 or CAP 6835)
- Parallel Architecture area (CDA 5110 and CDA 6107)
- Network area (CNT 5008 and CNT 6707)
- Software Engineering area (CEN 5016 and CEN 6081)
- Database area (COP 5711 and COP 6731), etc.

The above list is only meant to provide some examples and is not comprehensive.

Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, are required to complete 12 credit hours of electives that are selected after consultation with the student's adviser.

- Electives (12 credit hours)

At least half of the credit hours of both thesis and nonthesis students must be at the 6000 level. Furthermore, at least two 6000-level Computer Science formal courses (6 credit hours) must be taught by EECS faculty, exclusive of independent study and directed research and a total of 24 credit hours of formal courses must be earned exclusive of thesis. Approval may be granted for no more than 6 credit hours of electives to be taken outside of Computer Science, and such approval must occur prior to taking these outside courses.

Thesis Option—6 Credit Hours

- XXX 6971 Thesis (6 credit hours; prefix determined by disciplinary area of your thesis adviser, e.g., CAP, CDA, CEN, COP or COT 6971)

Six credits of thesis are required with the professor who directs the student's thesis. The thesis experience is expected to span two semesters. Thesis students who are full-time must continue to enroll in 3 credit hours of thesis course work until the thesis requirement is satisfied, even if it goes beyond the minimum of 6 credit hours of thesis. Students are required to prepare and defend a formal thesis in accordance with university requirements.

Nonthesis Option—6 Credit Hours

The nonthesis option requires at least 6 additional credit hours of electives beyond the 12 credit hours of electives described above.

- Electives (6 credit hours)

In addition, nonthesis students are required to engage in a culminating experience as determined by the program's graduate committee. Students in the nonthesis option may not take more than 6 credit hours of independent study (6908) and/or directed research (XXX 6918).

Equipment Fee

Students in the Computer Science MS program pay a $34 equipment fee each semester that they are enrolled. Part-time students pay $17 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis or an approved set of research-based classes for nonthesis students.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Resume
- Letters of recommendation (encouraged but not required)

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

An undergraduate degree in Computer Science is desirable but not required. Applicants without a strong undergraduate background in Computer Science must demonstrate an understanding of the material covered in upper-division undergraduate courses listed under the Articulation Section of the Curriculum Information. Applicants may choose to demonstrate their knowledge of these courses by taking these courses as non-degree seeking and scoring "B" or better in all of them.

Application Deadlines

Computer Science MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Dan Marinescu PhD
Professor
Program Director
cs-grad@cs.ucf.edu
407-823-2779
HEC 304

Computer Science MS

Accelerated BS to MS

TRACK DESCRIPTION

The Accelerated BS to MS program in Computer Science allows highly qualified UCF undergraduate majors in Computer Science to take graduate-level courses that will count toward their MS degree while completing their BS degree program.

CURRICULUM

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Up to 12 credit hours of 5000- and 6000-level courses with a grade of "B" (3.0) or better may be counted toward the accelerated BS to MS program. Two additional requirements for the students in this program are:

- Students must earn at least a "B" (3.0) in each undergraduate- or graduate-level course counted for the program.
- Students must opt for this program no later than the beginning of their junior year.

Undergraduate Requirements

See the current version of the Undergraduate Catalog and the College of Engineering and Computer Science website for additional requirements for accelerated programs.

Graduate Requirements

For the thesis option, students must take at least 18 credit hours beyond the 12 credit hours counted toward the undergraduate degree and include 6 credit hours of thesis. For both the thesis and nonthesis options, the 18 credit hours need to include

- CDA 5106 and COT 5405, both with a grade of "B" (3.0) or better (6 credit hours)
- Any approved pair of Computer Science courses (a 5000/6000 pair) in a single area of discourse, both with a grade of "B" (3.0) or better (6 credit hours)

Plan of Study

The Plan of Study is an agreement between the student, the program and the University that lists the coursework taken to satisfy the requirements for completing the degree. The Plan of Study for student is flexible and unique to each student. However, it must meet university, college and department requirements.

All graduate students must have a Plan of Study on file, approved by the adviser and graduate coordinator, by the completion of 9 credit hours after entering the program. The College of Graduate Studies automatically places a "hold" on future registration for noncompliance. The default adviser for nonthesis MS students is the Graduate Coordinator.

Equipment Fee

Students in the Computer Science MS program pay a $34 equipment fee each semester that they are enrolled. Part-time students pay $17 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis or an approved set of research-based classes for nonthesis students.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

The **Accelerated BS to MS program** in Computer Science allows highly qualified University of Central Florida undergraduate majors in Computer Science to begin taking graduate level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to the **Computer Science Program** without a track selection. Additional information about this track may be located at: http://www.cecs.ucf.edu/current-students/bs-ms-program/.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Resume
- Letters of recommendation (encouraged but not required)

Application Deadlines

Accelerated BS to MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Dan Marinescu PhD
Professor
Program Director
cs-grad@cs.ucf.edu
407-823-2779
HEC 304

Conservation Biology, Professional Science Master's

PROGRAM DESCRIPTION

This program has been temporarily suspended effective Spring 2017. The Professional Science Master's (PSM) in Conservation Biology provides students with high-quality training in evaluating, understanding, and providing solutions to society's conservation challenges. The program will teach relevant skills, provide expertise to meet STEM workforce needs, prepare graduates for careers in the public and private sectors.

By producing experts who are able to synthesize research, think critically, and provide leadership in conservation biology, this program has the potential to transform both the professionals who work in the discipline as well as the field of conservation biology. The PSM in Conservation Biology will combine traditional biological sciences with business, communications, law, politics, urban and regional planning, and environmental engineering. The goal of the program is to produce biologists capable of working within the broader arena of environmental politics, law, and economics; to communicate issues of conservation biology to diverse audiences; and to recommend solutions to policy makers, the general public, and the field.

The program consists of at least 31 hours of graduate-level instruction, which includes a core of coursework in Conservation Biology and provides additional professional development courses that are useful within this interdisciplinary field. A required professional development component involves a mentored biology course that will help students develop presentation skills and provide them with the tools to write effective proposals. An interdisciplinary selection of professional courses will be enhanced through an internship experience offered by partnering industries, government agencies, and organizations.

CURRICULUM

The Professional Science Master's (PSM) in Conservation Biology is an applied degree with a combination of graduate biology and professional courses with a required internship. Professional courses can be from the business, management, law, public administration, and policy areas. This broad background coupled with the internship experience prepares PSM graduates for employment in the broad field of conservation.

Total Credit Hours Required:

31-38 Credit Hours Minimum beyond the Bachelor's Degree

The Professional Science Master's (PSM) in Conservation Biology consists of a minimum of 31 credit hours, including at least 15 credit hours of core and restricted elective courses in conservation biology, 12 credit hours of professional development courses, and 3 credit hours of internship. The program is designed to be completed in two years.

With graduate program coordinator approval, a maximum of 6 credit hours of directed research (6918) or independent study (6908) may be used to meet degree requirements.

Required Courses—7-10 Credit Hours

Conservation Biology Core—6-9 Credit Hours

Students must take two of the following courses.

- PCB 6042 Conservation Biology Theory (4 credit hours)
- PCB 6556 Conservation Genetics (3 credit hours)
- PCB 6466 Methods in Experimental Ecology (3 credit hours)
- PCB 5326C Ecosystems of Florida (5 credit hours)

Professional Development Core—1 Credit Hour

Students must take the following required course.

- PCB 6095 Professional Development in Biology I (1 credit hour)

Electives—21-25 Credit Hours

Conservation Biology Restricted Electives—9-13 Credit Hours

Students should select one course from each of the following subject areas.

General Biology

- ENY 5006C Entomology (4 credit hours)
- PAZ 5235 Zoo and Aquarium Biology Management (3 credit hours)
- PCB 6042 Conservation Biology Theory (4 credit hours)
- ZOO 6520 Behavioral Ecology (3 credit hours)
- ZOO 5456C Ichthyology (4 credit hours)
- ZOO 5463C Herpetology (4 credit hours)
- ZOO 5475L Field Ornithology (3 credit hours)

Ecology

- BOT 6623C Plant Ecology (4 credit hours)
- BSC 5332 Invasion Biology (3 credit hours)
- PCB 5326C Ecosystems of Florida (5 credit hours)

- PCB 5435C Marine Conservation Biology (4 credit hours)
- PCB 6035C Wetland Ecology (4 credit hours)
- PCB 6046 Advanced Ecology (5 credit hours)
- PCB 6053C Restoration Ecology (4 credit hours)
- PCB 6466 Methods in Experimental Ecology (3 credit hours)

Evolutionary Biology, Applied Mathematics, and Genetics

- BSC 5824 Biogeography (4 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 6938 Mathematical Biology (4 credit hours)
- PCB 5447 Disease Ecology and Ecoimmunology (3 credit hours)
- PCB 5935 Population Genetics (3 credit hours)
- PCB 6675C Evolutionary Biology (4 credit hours)
- PCB 6677 Molecular Evolution (3 credit hours)

Professional Development Restricted Electives—12 Credit Hours

Students should select at least 12 credit hours of courses from the list below or comparable courses as approved by the graduate program coordinator.

- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- EDS 6100 Leadership (3 credit hours)
- INR 6352 Global Environmental Politics (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours)
- GEB 6115 Entrepreneurship (3 credit hours)
- GEB 6116 Business Plan Preparation (3 credit hours)
- GEB 6518 Strategic Innovation (3 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- PAD 5041 Ethics and Values in Public Administration (3 credit hours)
- PAD 5336 Introduction to Urban Planning (3 credit hours)
- PAD 5338 Land Use and Planning Law (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6353 Environmental Program Management Research (3 credit hours)
- PAD 6397 Managing Emergencies and Crises (3 credit hours)
- PHM 5035 Environmental Philosophy (3 credit hours)
- PUP 6201 Urban Environmental Policy (3 credit hours)
- PUP 6208 Environmental Politics (3 credit hours)
- PUP 6247 Continuing Issues in Environmental Politics (3 credit hours)

Internship—3 Credit Hours

- IDS 6946 Internship in Conservation Biology (3 credit hours)

Additionally, all students pursuing the Professional Science Master's must enroll in the following course:

- IDS 5949 Co-op Ed / Work Experience (0 credit hours)

Students must register for IDS 5949 and IDS 6946 simultaneously. Students must complete the course with a satisfactory (S) grade. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

Culminating Experience

All students a required to complete an internship. During their internship, students will gain hands on experience in the area of conservation they are most interested in. Previous interns have worked in area from science education, land management, wildlife conservation and public policy. Internship placement assistance is given to students in good standing in the program.

A student's understanding, writing, and analytical skills will be evaluated by means of a written report completed at the end of the internship and a presentation that is based on their internship experience to be completed in Fall semester following the internship.

INDEPENDENT LEARNING

The internship experience and report serve as the independent learning experiences for this program.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide an official, competitive, GRE score taken within the last five years, three letters of recommendation, a résumé, and a personal statement; applicants from countries where English is not the official language or applicants with degrees from non-U.S. accredited institutions must achieve a minimum score of 230 on the TOEFL.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Official, competitive GRE score taken within the last five years
- Three letters of recommendation that address the applicant's capabilities and likelihood of success as a graduate student
- Résumé
- A personal statement addressing related experience/coursework, immediate and long-range goals, and overall fit with the program
- A computer-based score of 230 (or 89 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Applicants do not need an undergraduate degree in a biological science, but are expected to have 18 hours of biological sciences, including ecology and genetics. Courses in organic chemistry, calculus, and statistics are also recommended. After acceptance, minor deficiencies must be remedied by enrollment in the appropriate course at the first opportunity.

Applicants who do not have a competitive GPA or GRE may occasionally be accepted if there is other convincing evidence of potential for high achievement and success. For U.S. applicants, GRE scores can be self reported prior by the submission deadline if the official score cannot be received in time. Admission will be conditional upon receipt of the official score.

CONTACT INFO

Elizabeth Smock
Program Staff
GradPSM@ucf.edu

Counselor Education MA

PROGRAM DESCRIPTION

The College of Education and Human Performance offers CACREP accredited graduate degrees in Counselor Education (with tracks in School Counseling and Clinical Mental Health Counseling) and Marriage, Couple, and Family Therapy. The School Counseling track is designed for the student who plans to seek certification as a professional school counselor in Pre-K through post-secondary school settings. The Clinical Mental Health Counseling track prepares students for licensure in mental health counseling and to practice in agencies, private practice, and other settings. The Marriage, Couple, and Family Therapy program prepares students for licensure in marriage and family therapy and to practice in agencies, private practice, and other settings.

As part of the program's pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling and Research Center and field-based experiences in the community. The UCF Community Counseling and Research Center serves as a hub for training and research in the program, with graduate students providing services to over 1000 individuals each year through child, adult, couples, and family counseling.

Because the programs in Counselor Education (Clinical Mental Health Counseling and School Counseling Tracks) and Marriage, Couple, and Family Therapy are CACREP accredited and prepare students for licensure and/or certification as professional counselors, students must be formally admitted to the program in order to take any program area courses. There are three exceptions to this restriction: (1) non-degree seeking students interested in exploring the program prior to admission may take MHS 5005 Introduction to the Counseling Profession, pending available space after admitted students have been placed in the course; (2) individuals who already possess a master's degree (or above) and are taking courses toward a certificate program (e.g., Play Therapy, Marriage, Couple, and Family Therapy, or Career Counseling) may take the necessary courses upon being accepted into the appropriate certificate program, and; (3) individuals who already possess a master's degree (or above) and are taking courses toward Florida licensure in MHC or MFT may take MHS 6070 Diagnosis and Treatment, MHS 6450 Addiction Counseling, and/or MHS 6470 Human Sexuality and Relationships, pending available space after admitted students have been placed in those courses.

The Master of Arts in Counselor Education--School Counseling track is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

Please note that Marriage, Couple, and Family Therapy is a separate degree but still part of the Counselor Education program.

APPLICATION REQUIREMENTS

Applicants must choose a track (i.e., School Counseling or Mental Health Counseling) in this program. Applicants for the Marriage and Family Therapy program should apply to that program by selecting this program alphabetically from the listing. Tracks may have different requirements. Applicants must choose a track (i.e., School Counseling or Mental Health Counseling) in this program. Applicants for the Marriage and Family Therapy program should apply to that program by selecting this program alphabetically from the listing. Tracks may have different requirements.

CONTACT INFO

W. Bryce Hagedorn PhD
Associate Professor
Program Director
counsel@ucf.edu
407-823-2401
Education 322C

Counselor Education MA

Clinical Mental Health Counseling

TRACK DESCRIPTION

The CACREP Accredited Clinical Mental Health Counseling track in the Counselor Education MA program prepares students for licensure in Clinical Mental Health Counseling and to practice in agencies, private practice, and other settings.

As part of the program's pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling and Research Center and field-based experiences in the community. The UCF Community Counseling and Research Center serves as a hub for training and research in the program, with graduate students providing annual services to over 1,400 individuals, couples, and families in the central Florida community.

CURRICULUM

The CACREP accredited Clinical Mental Health Counseling track in the Counselor Education MA program prepares students for Florida licensure in Clinical Mental Health Counseling. As such, students must be formally admitted to the program in order to take program area courses. The program requires a minimum of 63 credit hours beyond the bachelor’s degree, including 6 credit hours of core courses, 39 credit hours of specialization (including a 3 credit hour elective), 12 credit hours of professional clinical experiences, and 6 credit hours of electives in either the nonthesis or thesis option.

Total Credit Hours Required:

63 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—45 Credit Hours

Core—6 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Specialization—39 Credit Hours

- MHS 5005 Introduction to the Counseling Profession (3 credit hours)
- MHS 6020 Mental Health Care Systems (3 credit hours)
- MHS 6070 Diagnosis and Treatment in Counseling (3 credit hours)
- MHS 6220 Individual Psychoeducational Testing I (3 credit hours)
- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- MHS 6420 Foundations of Multicultural Counseling (3 credit hours)
- MHS 6450 Addictions Counseling (3 credit hours)
- MHS 6470 Human Sexuality and Relationships (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- MHS 6702 Ethical and Legal Issues (3 credit hours)
- SDS 6347 Career Development (3 credit hours)
- Elective approved by adviser (3 credit hours)

Thesis Option—6 Credit Hours

- EGC 6971 Thesis (6 credit hours)

Nonthesis Option—6 Credit Hours

- Two approved electives (6 credit hours)

Professional Clinical Experience—12 Credit Hours

The clinical experiences are comprised of two sections, Practicum and Internship. Both are experiential in nature and are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program to their work with actual clients. The practicum is conducted on campus in the UCF Community Counseling and Research Center and the Internship is conducted at various clinical sites around central Florida.

- MHS 6803 Practicum in Counselor Education (3 credit hours)*
- MHS 6803 Practicum in Counselor Education (3 credit hours)*
- MHS 6830 Counseling Internship (3 credit hours)**
- MHS 6830 Counseling Internship (3 credit hours)**

***** Prerequisites for MHS 6803 Practicum in Counselor Education are the following: MHS 5005, MHS 6070, MHS 6400, MHS 6401, MHS 6500, and MHS 6702. A minimum of 27 credit hours are required prior to beginning the Practicum.

****** The prerequisite for MHS 6830 Counseling Internship is a "B" or better in all sections of MHS 6803 as well as MHS 6420.

Additional Program Requirements

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- Achieve a “B” or better in MHS 5005, MHS 6401, MHS 6803, and MHS 6830.
- Complete a total of 800 hours of clinical experiences, 200 of which will be in the UCF Community Counseling and Research

Center and 600 of which are field-based experiences in the community.
- Complete a portfolio and receive approval by Counselor Education faculty.
- Complete a professional exit examination.
- Given the experiential, competency, and performance-based nature of the courses taken by Counselor Education students, students are limited to taking a maximum of three (3) courses per semester. However, if students believe that they can verify a need to take more than three courses, they should consult with their academic adviser for additional guidelines. Students who have not received prior approval and who register for more than three courses per semester will be administratively dropped from any courses over the maximum allowed.

INDEPENDENT LEARNING

Practica and internships are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. The internship experience provides students with the practical experience of providing hands-on services for a variety of clients and presenting concerns. Such services may include, but are not limited to, individual, couple, family, and group counseling with children, adolescents, and adults. Client concerns range from developmental and relational concerns to more severe pathology.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, a résumé, and a goal statement.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken in the last five years.
- Three letters of recommendation.
- Résumé.
- Goal statement.

The Master of Arts in Counselor Education--Clinical Mental Health Counseling track can accommodate only a limited number of students; therefore, there is a possibility of being denied admission even when all criteria are met.

The College of Education and Human Performance reserves the right to refuse student entrance or terminate a student after admission to the Counselor Education Program, if in the judgment of the faculty the student demonstrates unacceptable personal fitness to work in the counseling field with children, youth, and/or adults.

A formal interview is required and will be scheduled after the College of Education and Human Performance admission requirements are met. The interview dates for March and October will be posted on our Counselor Education website. Attendance at the program orientation session at 4:30 p.m. on the Thursday before classes begin, in the semester to which the student applied, is **mandatory**.

Application Deadlines

Clinical Mental Health Counseling	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15	Sep 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Feb 15	Sep 1	

CONTACT INFO

Dalena Dillman Taylor PhD, LPC, RPT
Assistant Professor
Program Director
Dalena.Taylor@ucf.edu
407-823-2401
ED 322R

Counselor Education MA

School Counseling

TRACK DESCRIPTION

The CACREP Accredited School Counseling track in the Master of Arts in Counselor Education is designed for the student planning to seek certification as a professional school counselor in pre-K through postsecondary school settings.

The CACREP Accredited School Counseling track in the Counselor Education MA program is designed for students who have a bachelor's degree in a discipline other than education and plan to seek certification as a professional school counselor in pre-K through postsecondary school settings.

As part of the program's pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling and Research Center and field-based experiences in the community. The UCF Community Counseling and Research Center serves as a hub for training and research in the program, with graduate students providing annual services to over 1,400 individuals, couples, and families in the central Florida community.

The Master of Arts in Counselor Education-School Counseling track is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in Counselor Education-School Counseling should remain in close contact with their advisor to keep informed of any programmatic changes implemented to comply with new state requirements.

CURRICULUM

The CACREP accredited School Counseling track in the Counselor Education MA program prepares students for certification as a professional school counselor. As such, students must be formally admitted to the program in order to take any program area courses. The program requires a minimum of 60 credit hours beyond the bachelor's degree, including 6 credit hours of core courses, 30 credit hours of specialization, 9 credit hours of DOE required certification courses, 9 credit hours of professional clinical experiences, and 6 credit hours of electives in either the nonthesis or thesis option.

Total Credit Hours Required:

60 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—45 Credit Hours

Core—6 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Specialization—30 Credit Hours

- MHS 5005 Introduction to the Counseling Profession (3 credit hours)
- MHS 6220 Individual Psychoeducational Testing I (3 credit hours)
- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- MHS 6420 Foundations of Multicultural Counseling (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- SPS 6815 Legal and Ethical Issues in Professional School Counseling (3 credit hours)
- SDS 6347 Career Development (3 credit hours)
- SDS 6411 Counseling with Children and Adolescents (3 credit hours)
- SDS 6620 Coordination of Comprehensive Professional School Counseling Programs (3 credit hours)

DOE Certification—9 Credit Hours

- TSL 5085 Teaching Language to Minority Students in K-12 Classrooms (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)

Thesis Option—6 Credit Hours

- EGC 6971 Thesis (6 credit hours)

Nonthesis Option—6 Credit Hours

- Two approved electives (6 credit hours)

Professional Clinical Experience—9 Credit Hours

The clinical experiences are comprised of two sections, Practicum and Internship. Both are experiential in nature and are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program to their work with actual clients and students. The practicum is conducted on campus in the UCF Community Counseling and Research Center and the internship is conducted at various schools around central Florida.

- MHS 6803 Practicum in Counselor Education (3 credit hours)*
- SDS 6947 Internship in Professional School Counseling (3 credit hours)**
- SDS 6947 Internship in Professional School Counseling (3 credit hours)**

***** Prerequisites for MHS 6803 Practicum in Counselor Education are the following: MHS 5005, MHS 6400, MHS 6401, MHS 6500, and SPS 6815. MHS 6420 and SDS 6411 are also pre or co-requisites for MHS 6803. A minimum of 27 credit hours are required prior to beginning the practicum.

****** The prerequisites for SDS 6947 Internship in Professional School Counseling include SPS 6815, a "B" or better in MHS 6803, and completion of MHS 6420.

Additional Program Requirements

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- Achieve a “B” or better in MHS 5005, MHS 6401, MHS 6803 and SDS 6947.
- Complete a total of 700 hours of clinical experiences, 100 of which will be in the UCF Community Counseling and Research Center and 600 of which are field-based experiences in a school setting.

- Complete a portfolio and receive approval by Counselor Education faculty.
- Complete a professional exit examination.
- Given the experiential, competency, and performance-based nature of the courses taken by Counselor Education students, students are limited to taking a maximum of three (3) courses per semester. However, if students believe that they can verify a need to take more than three courses, they should consult with their advisor for additional guidance. Students who have no received prior approval and who register for more than three courses per semester will be administratively dropped from any courses over the maximum allowed.

INDEPENDENT LEARNING

Practica and internships are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. The internship experience provides students with the practical experience of facilitating a comprehensive, professional school counseling program in a school setting (e.g., leading classroom guidance lessons, facilitating group counseling, providing individual counseling services).

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, a résumé, and a goal statement.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken in the last five years.
- Three letters of recommendation.
- Résumé.
- Goal statement.

In accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program also requires passing all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT). This provision applies to all applicants to the MA program, School Counseling track.

UPDATE: In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted **on or after July 1, 2015,** may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT SUBTEST	GRE SUBTEST	MINIMUM GRE SCORE REQUIRED TO SUBSTITUTE FOR GK SUBTEST
GK Writing Subtest (Essay)	GRE Analytical Writing	A combined score of 4 out of 6
GK English Language Subtest Skills	GRE Verbal Reasoning	A scaled score of 151
GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a new Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).

The Master of Arts in Counselor Education-School Counseling track can accommodate only a limited number of students; therefore, there is a possibility of being denied admission even when all criteria are met.

The College of Education and Human Performance reserves the right to refuse student entrance or terminate a student after admission to the Counselor Education Program, if in the judgment of the faculty the student demonstrates unacceptable personal fitness to work in the counseling field with children, youth, and/or adults.

A formal interview is required and will be scheduled after the College of Education and Human Performance admission requirements are met. The interview dates for March and October will be posted on our Counselor Education website. Attendance at the program orientation session at 4:30 p.m. on the Thursday before classes begin, in the semester to which the student applied, is mandatory.

Application Deadlines

School Counseling	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Feb 15		

CONTACT INFO

Stacy VanHorn PhD
Program Director
counsel@ucf.edu
407-823-2401
ED 322M

Counselor Education MEd

- School Counseling

PROGRAM DESCRIPTION

The Master of Education in Counselor Education program prepares students to work as professional counselors in pre-K through postsecondary school settings.

The Counselor Education Master of Education (MEd) program was created for students who have a bachelor's degree in education and have completed course work for teaching certification and plan to seek certification in school counseling.

As part of the program's real-world approach to counselor education (in addition to classroom studies) all students complete clinical experiences in the UCF Community Counseling and Research Center and on-site in local schools.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

W. Bryce Hagedorn PhD
Associate Professor
Program Director
counsel@ucf.edu
407-823-2401
Education 322C

Counselor Education MEd

School Counseling

TRACK DESCRIPTION

The Master of Education in Counselor Education program prepares students to work as professional counselors in pre-K through postsecondary school settings.

The Counselor Education Master of Education (MEd) program was created for students who have a bachelor's degree in education and have completed course work for teaching certification and plan to seek certification in school counseling.

As part of the program's real-world approach to counselor education (in addition to classroom studies) all students complete clinical experiences in the UCF Community Counseling and Research Center and on-site in local schools.

CURRICULUM

The CACREP accredited School Counseling track in the Counselor Education MEd program prepares students for certification as a professional school counselor. As such, students must be formally admitted to the program in order to take any program area courses. The program requires a minimum of 51 credit hours beyond the bachelor's degree, including 6 credit hours of core courses, 30 credit hours of specialization, 9 credit hours of professional clinical or practicum experience, and 6 credit hours of electives in either the nonthesis or thesis option.

Total Credit Hours Required:

51 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisite

Students must have or be eligible for the Florida Professional Teaching Certificate in Counselor Education.

Required Courses—36 Credit Hours

Core—6 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Specialization—30 Credit Hours

- MHS 5005 Introduction to the Counseling Profession (3 credit hours)
- MHS 6220 Individual Psychoeducational Testing I (3 credit hours)
- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- MHS 6420 Foundations of Multicultural Counseling (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- SPS 6815 Legal and Ethical Issues in Professional School Counseling (3 credit hours)
- SDS 6347 Career Development (3 credit hours)
- SDS 6411 Counseling with Children and Adolescents (3 credit hours)
- SDS 6620 Coordination of Comprehensive Professional School Counseling Programs (3 credit hours)

Thesis Option—6 Credit Hours

- EGC 6971 Thesis (6 credit hours)

Nonthesis Option—6 Credit Hours

- Two approved electives (6 credit hours)

Professional Clinical Experience—9 Credit Hours

The clinical experiences are comprised of two sections, Practicum and Internship. Both are experiential in nature and are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program to their work with actual clients and students. The practicum is conducted on campus in the UCF Community Counseling and Research Center and the internship is conducted at various schools around central Florida.

- MHS 6803 Practicum in Counselor Education (3 credit hours)*
- SDS 6947 Internship in Professional School Counseling (3 credit hours)**
- SDS 6947 Internship in Professional School Counseling (3 credit hours)**

*Prerequisites for MHS 6803 Practicum in Counselor Education are the following: MHS 5005, 6400, 6401, 6500, and SPS 6815. MHS 6420 and SDS 6411 are also pre or co-requisites for MHS 6803. A minimum of 27 credit hours are required prior to beginning the practicum.

**The prerequisites for SDS 6947 Internship in Professional School Counseling include SPS 6815, a "B" or better in MHS 6803, and MHS 6420.

Additional Program Requirements

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- Achieve a “B” or better in MHS 5005, MHS 6401, MHS 6803 and SDS 6947.
- Complete a total of 700 hours of clinical experiences, 100 of which will be in the UCF Community Counseling and Research Center and 600 of which are field-based experiences in a school setting.
- Complete a portfolio and receive approval by Counselor Education faculty.
- Complete a professional exit examination.
- Given the experiential, competency, and performance-based nature of the courses taken by Counselor Education students, students are limited to taking a maximum of three (3) courses per semester. However, if students believe that they can verify a need to take more than three courses, they should consult with their academic advisor for guidance on the procedure. Students who have not received prior approval and who register for more than three courses per semester will be administratively dropped from any courses over the maximum load.

INDEPENDENT LEARNING

Practica and internships are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. The internship experience provides students with the practical experience of facilitating a comprehensive, professional school counseling program in a school setting (e.g., leading classroom guidance lessons, facilitating group counseling, providing individual counseling services).

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants to this program must provide an official, competitive GRE score taken within the last five years, a current Florida Professional Teaching Certificate in Counselor Education or have completed all the requirements for that Professional Teaching Certificate, three letters of recommendation, a résumé, and a goal statement.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.

- Official, competitive GRE score taken in the last five years.
- M.Ed. applicants must be eligible for certification or hold a current Florida Professional Teaching Certificate prior to the start of their first term. All other applicants should apply to the Counselor Education MA – School Counseling Track
- Three letters of recommendation.
- Résumé.
- Goal statement.

Applicants who have graduated from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the MEd program at the Counselor Education-School Counseling track (M.Ed.) at the discretion of the program director.

The Master of Education in Counselor Education-School Counseling track can accommodate only a limited number of students; therefore, there is a possibility of being denied admission even when all criteria are met.

The College of Education and Human Performance reserves the right to refuse student entrance or terminate a student after admission to the Counselor Education program, if in the judgment of the faculty the student demonstrates unacceptable personal fitness to work in the counseling field with children, youth, and/or adults.

A formal interview is required and will be scheduled after the College of Education and Human Performance admission requirements are met. The interview dates for March and October will be posted on our Counselor Education website. Attendance at the program orientation session at 4:30 p.m. on the Thursday before classes begin, in the semester to which the student applied, is mandatory.

Application Deadlines

School Counseling	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Feb 15		

CONTACT INFO

Stacy VanHorn PhD
Program Director
counsel@ucf.edu
407-823-2401
ED 322M

Criminal Justice MS

- Public Administration MPA Dual Degree

PROGRAM DESCRIPTION

The Master of Science in Criminal Justice is designed to meet the needs of students preparing for careers in the field of criminal justice. The curriculum focuses on the traditional issues such as management, administrative and criminal justice theory, as well as basic research methods and descriptive statistics.

The Master of Science in Criminal Justice core and elective courses focus on the complex and changing world in which criminal justice systems operate in this country and abroad. This plan of study is designed to equip future criminal justice leaders to be critical consumers of criminal justice research.

The benefits of an advanced graduate degree in criminal justice are self evident and are being increasingly recognized by employers in central Florida and throughout the United States. Federal, state, and local criminal justice agencies benefit from an informed and innovative workforce that is aware of the complex issues and problems faced by the system regardless of geographic locale. Furthermore, graduates of the program are grounded in the latest theories and learn how these theories affect each individual or organization within the system.

International applicants should be aware the program may not offer sufficient on campus courses for F or J visa holders. Please contact the program for more information before applying.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The Master of Science in Criminal Justice requires 36 credit hours, including 21 credit hours of core courses, 6 credit hours of restricted electives, 9 credit hours of general electives, and a final written examination within the Proseminar or capstone course. For students electing to complete a thesis, 6 credit hours of the general elective requirements will be thesis hours.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—21 Credit Hours

Core—18 Credit Hours

- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CCJ 6704 Research Methods in Criminal Justice (3 credit hours)
- CCJ 6706 Data Analysis in Criminal Justice I (3 credit hours)
- CCJ 6106 Policy Analysis in Criminal Justice (3 credit hours)
- CCJ 6118 Criminal Justice Organizations (3 credit hours)

Capstone—3 Credit Hours

The Proseminar in Criminal Justice serves as the capstone experience for the program and the culminating learning experience.

- CJE 6718 Proseminar in Criminal Justice (3 credit hours)

Students must achieve a grade of "B" (3.0) or higher in every course listed under core requirements and in the capstone course (CJE 6718).

Elective Courses—15 Credit Hours

The combined total of Restricted and Unrestricted 5000 level electives may not exceed 12 credit hours.

Restricted—6 Credit Hours

Select two from the following courses.

- CJC 5020 Foundations of Corrections (3 credit hours)
- CJE 5021 Foundations of Law Enforcement (3 credit hours)
- CJJ 6020 Juvenile Justice (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)
- CJL 6520 American Criminal Courts (3 credit hours)

Unrestricted—9 Credit Hours

- Electives (9 credit hours)

Students should consult with the Criminal Justice adviser for approval of general electives outside of the Criminal Justice program prior to enrolling. Criminal Justice courses at the 5000 or 6000 level, not used toward core or restricted electives, are pre-approved general electives.

Thesis Option—6 Credit Hours of the general elective requirements may be thesis hours

All MSCJ students are automatically placed into the nonthesis option. Students electing to complete a thesis should consult the program adviser. The thesis option will consist of 6 hours of thesis credit and a successful defense of a thesis. Students should select a faculty adviser, form a thesis committee, and complete core/restricted elective requirements before enrolling in thesis hours. A thesis proposal must also be submitted to an approved committee before enrolling thesis hours. Students who elect to write a thesis should become familiar with the university's requirements and deadlines for organizing and submitting the thesis.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Tangible projects such as advanced research projects, scholarly papers, internships, practicum, and presentations at professional conferences also contribute to the self development of our students. The culminating experience for students is completion of the Proseminar in Criminal Justice (CJE 6718), which serves as the capstone for the program.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide a statement of career goals (indicating how the Criminal Justice MS degree will enhance the applicant's career goals), a résumé (no longer than two pages), and two letters of recommendation. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Statement of career goals, one or two pages indicating how the Criminal Justice MS degree will enhance the applicant's career goals and expectations of the graduate program.
- Résumé (no longer than two pages).
- Two letters of recommendation. Letters should be from professors or professional references who can attest to the applicant's ability to succeed in graduate coursework and his or her work ethic.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Students should be aware that admission to any graduate program is granted on a competitive basis. There may be cases where students meeting minimum requirements are denied admission based on such factors as program capacity or academic discretion. Applicants not meeting the minimum 3.0 GPA standards may be considered as candidates for very limited and competitive "provisional" admissions. However, only students with complete applications (final transcript, résumé, letters of recommendation and statement of career goals) will be reviewed under this special admission category. Competitive GRE scores are encouraged for this admission category.

Application Deadlines

Criminal Justice MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Elexis Ritz
Program Staff
elexis.ritz@ucf.edu
407-823-6093
HPA 311

Criminal Justice MS

Public Administration MPA Dual Degree

TRACK DESCRIPTION

The Public Administration MPA - Criminal Justice MS Dual Degree Track provides the opportunity for students to earn graduate degrees from two academic programs, the Master of Public Administration and the Master of Science in Criminal Justice, concurrently.

Students successfully completing this MPA/MS dual degree program will have the skills and analytical techniques for successful careers in both public administration and criminal justice. After successful completion of the MPA/MS dual degree program, students will receive two diplomas, one for the Public Administration MPA and one for the Criminal Justice MS.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The dual degree track (Master of Criminal Justice / Master of Public Administration) consists of 51 credit hours. Each student completes a core of 11 courses (33 credit hours), two research methods and statistics courses (6 credit hours), two electives (6 credit hours), and a capstone experience of two courses (6 credit hours).

Total Credit Hours Required:

51 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—45 Credit Hours

Core—33 Credit Hours

- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CCJ 6106 Policy Analysis in Criminal Justice (3 credit hours)
- CCJ 6118 Criminal Justice Organizations (3 credit hours)
- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- PAD 6037 Public Organization Management (3 credit hours)

- PAD 6053 Public Administrators in the Governance Process (3 credit hours)
- PAD 6207 Public Financial Management (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)

Research Methods/Statistics—6 Credit Hours

Select one PAD course and one CCJ course:

- PAD 6700 Research Methods in Public Administration (3 credit hours) or CCJ 6704 Research Methods in Criminal Justice (3 credit hours)
- PAD 6701 Analytic Techniques for Public Administration (3 credit hours) or CCJ 6706 Data Analysis I in Criminal Justice (3 credit hours)

Capstone—6 Credit Hours

- PAD 6062 Advanced Concepts and Applications in Public Administration (3 credit hours)
- CJE 6718 Proseminar in Criminal Justice (3 credit hours)

Electives—6 Credit Hours

Select two of the following courses:

- CJC 5020 Foundations of Corrections (3 credit hours)
- CJE 5021 Foundations of Law Enforcement (3 credit hours)
- CJJ 6020 Juvenile Justice (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)
- CJL 6520 American Criminal Courts (3 credit hours)

Additional Program Requirements

Students must achieve a grade of "B" or higher in every CCJ/CJE course and a grade of "B-" or higher in every PAD course in the core courses, including the Capstone courses. Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum, through the process of inquiry and dialogue. Tangible projects, such as scholarly research, papers, internships, and the capstone experience also contribute to the self-development of students. The capstone courses, PAD 6062 and CJE 6718, provide the independent learning experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to meeting general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation specifically for the Criminal Justice MS/MPA program evaluating scholarly and professional capacity. Letters from professors from the colleges/universities attended are preferred, but if that is not feasible, letters from current or past supervisors will be accepted. The recommender must address the applicant's work ethic and ability to succeed at graduate-level academic work.

- Current professional résumé including public service experience (paid or voluntary).
- Goal Statement: The goal statement is a key component of the admission review process and serves as an example of the applicant's ability to express himself or herself in writing. The goal statement must be no longer than two pages double spaced (500-800 words) and should address the following:
    - Personal background and career aspirations in public service.
    - Reason for pursuing graduate study in criminal justice and public administration, including future career goals and plans.
    - Specific areas of public administration and criminal justice that interests you.

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- All international students must meet university minimum TOEFL score requirements regardless of language in which the undergraduate program was completed.

Admission to this degree is competitive; applicants meeting the minimum university and/or program application requirements are not guaranteed admission to the program.

All requested material must be submitted by the established deadline date. Materials received after the established deadline may not be considered.

Application Deadlines

Public Administration MPA Dual Degree	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Elexis Ritz
Program Staff
elexis.ritz@ucf.edu
407-823-6093
HPA 311

Curriculum and Instruction MEd

PROGRAM DESCRIPTION

The Master of Education (MEd) program in Curriculum and Instruction is designed for professionally certified and experienced educators who want to extend their influence beyond the walls of the classroom and improve their knowledge and skills in the area of leadership. Students also engage in the development of expertise in leading other educators in curriculum and instructional improvement across subject areas and grade levels.

This degree does not prepare students for initial, administrative, or supervisory certification.

The Curriculum and Instruction program addresses teacher empowerment and leadership in the expanded roles and responsibilities of teachers in schools, including data-driven assessment for school improvement, professional learning communities, applying research to practice, improving instruction and student learning outcomes, and collaboration with families and communities.

During the admission process, students may select a track in the following content areas that do not require specific certification beyond the professional teaching certificate: Curriculum Leadership, Educational Technology, Gifted Education*, and Global, International and Comparative Education*, Intervention Specialist, and Supporting High Needs Populations.

This degree does not prepare students for initial, administrative, or supervisory certification.

***These program areas also include a certificate, which must be applied for separately.**

CURRICULUM

The Master of Education in Curriculum and Instruction program requires a minimum of 33 credit hours beyond the bachelor's degree; minimum credit hour requirements vary by track. Students from all tracks must complete the required 15 credit hours of core courses. The Master of Education in Curriculum and Instruction requires that all students complete a Capstone Research Project. The Capstone is a course-based action research study (i.e., application and analysis of the effectiveness of research-based best practices in the classroom). Additional course requirements vary by track.

Total Credit Hours Required:

33-36 Credit Hours Minimum beyond the Bachelor's Degree

This section describes the elements of the curriculum that are in common for all of the tracks.

Required Courses

Core—15 Credit Hours

All students must take the Curriculum and Instruction core, regardless of their chosen specialization.

- EDG 6935 Introductory Seminar in Teacher Leadership* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-driven Decision Making for Instruction** (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice** (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours)

*Must be taken in first semester of program.

**Prerequisites for the Capstone course.

Students complete a Capstone Research Project at the end of the program. EDF 6635 is offered in spring semester only. Students must complete an Intent to Graduate Form the semester prior to enrolling in EDF 6635.

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

Application Deadlines

Curriculum and Instruction MEd	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Mike Hynes PhD
Professor
Chair
michael.hynes@ucf.edu
407-823-2005
ED 209D

Curriculum and Instruction MEd

Art Education

TRACK DESCRIPTION

Admission to this program has been suspended effective Summer 2015.

The Art Education track in the Curriculum and Instruction MEd program is designed to meet the expanding needs of the art teacher.

The MEd degree is designed to meet the expanding needs of the art teacher. Students in the program examine contemporary problems in art education, review recent curriculum developments, study innovations in art education, explore interdisciplinary concepts, and become involved in research problems specific to the art teacher. This degree requires previous certification in art.

CURRICULUM

The Art Education track in the Curriculum and Instruction MEd program requires 15 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 21 credit hours of specialization courses.

Total Credit Hours Required:

36-39 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—36-39 Credit Hours

Core—15 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction** (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice** (3 credit hours)
- EDF 6635 Action Research and Inquiry in Teacher Leadership (3 credit hours) or IDS 6971 Thesis (6 credit hours)

* Must be taken in first semester in the program.

**Prerequisites to the Capstone.

Student completes either a Capstone Research Project or Thesis at the end of the program. EDF 6635 is offered in spring semester only.

Specialization—21 Credit Hours

Students take the following courses:

- ARE 6450 K-12 Instructional Materials (3 credit hours)
- ARE 6666 Arts Advocacy (3 credit hours)
- ARE 6748 Advanced Research Seminar in Art Education (3 credit hours)
- ARE 6747 Assessment Seminar in Art Education (3 credit hours)
- ARE 6905 Research Trends in Art Education (3 credit hours)

Choose two of the following elective courses with adviser approval:

- ARE 5251 Art for Exceptionalities (3 credit hours)
- ARE 5454 Studio Experiences in Art Education (3 credit hours; may be repeated for credit up to 3 times)
- ARE 6195 Teaching Art Appreciation with Interdisciplinary Strategies (3 credit hours)
- ARE 6748 Advanced Research Seminar in Art Education (3 credit hours; may be used in the degree program a maximum of 2 times only when course content is different)
- ARE 6905 Research Trends in Art Education (3 credit hours; may be repeated for credit)
- ART studio courses approved by adviser

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Art Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				
International Transfer Applicants				

CONTACT INFO

Debra McGann EdD
Lecturer
Program Director
debra.mcgann@ucf.edu
ED 122C

Curriculum and Instruction Med

Curriculum Leadership

TRACK DESCRIPTION

The Curriculum Leadership track in the Curriculum and Instruction Med program is designed to meet the advanced knowledge and skill needs of educators in curriculum planning and management.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

CURRICULUM

The Curriculum and Leadership track in the Master of Education (Med) Curriculum and Instruction program requires 15 credit hours of core courses, including completion of a capstone research project. In addition, students take 18 credit hours of specialization courses.

Total Credit Hours Required:

33-36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—33-36 Credit Hours

Core—15 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction** (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice** (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours)

*Must be taken in first semester of program.

**Prerequisites for the Capstone.

Students complete a Capstone Research Project at the end of the program. Students must complete an Intent to Graduate form the semester prior to enrolling in ED 6635. EDF 6635 is offered in spring semester only.

Specialization—18 Credit Hours

Students take the following courses:

- ESE 6217 Curriculum Design (3 credit hours)
- ESE 6416 Curriculum Evaluation (3 credit hours)
- EGI 6245 Curriculum and Instruction for Advanced, Gifted and Talented Learners (3 credit hours)
- EDF 6259 Learning Theories Applied to Leadership in Teaching Practice (3 credit hours)

Choose two of the following elective courses with adviser approval:

- EDF 6517 Perspectives on Education (3 credit hours)
- EME 5050 Fundamentals of Technology for Educators or EME 6602 Integration of Technology into the Curriculum (3 credit hours)
- EME 6602 Integration of Technology into the Curriculum (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)
- Other electives as approved by adviser and program coordinator (up to 6 credit hours)

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Curriculum Leadership	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Carolyn Hopp PhD
Other
chopp@ucf.edu
407-823-0392
ED 220 C

Curriculum and Instruction MEd

Educational Technology

TRACK DESCRIPTION

The Educational Technology track in the Curriculum and Instruction MEd program is designed for certified and experienced educators who want to increase their technological skills and become highly skilled at successfully integrating technology into the curriculum as well as develop leadership skills necessary to become site-based technology coordinators in K-12 schools, colleges and universities.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

CURRICULUM

The Educational Technology track in the Master of Education (MEd) in Curriculum and Instruction program requires 15 credit hours of core courses, including completion of a capstone research project. In addition, students take 18 credit hours of specialization courses.

Total Credit Hours Required:

33-36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—33-36 Credit Hours

Core—15 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)

- EDF 6472 Data-Driven Decision Making for Instruction** (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice** (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours)

* Must be taken in first semester in the program.

** Prerequisites to the Capstone.

Students complete a Capstone Action Research Project at the end of the program. EDF 6635 is offered in spring semester only.

Specialization—18 Credit Hours

Students take the following courses:

- EME 5050 Fundamentals of Technology for Educators (3 credit hours)
- EME 5053 Electronic Resources for Education (3 credit hours)
- EME 6405 Application Software for Educational Settings (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6602 Integration of Technology into the Curriculum (3 credit hours)

Choose one of the following courses:

- EME 6055 Current Trends in Instructional Technology (3 credit hours)
- EME 6062 Research in Instructional Technology (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)
- EME 6417 Interactive Online and Virtual Teaching Environments (3 credit hours; prerequisite is EME 6507)
- EME 6458 Virtual Teaching and the Digital Educator (3 credit hours; prerequisite is EME 6417)

INDEPENDENT LEARNING

The Med requires a course-based action research study and completion of a capstone experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Educational Technology	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Glenda Gunter PhD

Associate Professor
Program Director
glenda.gunter@ucf.edu
ED 322P

Curriculum and Instruction MEd

Global, International and Comparative Education

TRACK DESCRIPTION

The Global, International and Comparative Education track in the Curriculum and Instruction MEd is designed for educators who wish to expand their knowledge and skill in international and cross-cultural education setting.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

CURRICULUM

The Global, International and Comparative Education track in the Master of Education (MEd) in Curriculum and Instruction program requires 15 credit hours of core courses, including completion of a capstone research project. In addition, students take 21 credit hours of specialization courses.

Total Credit Hours Required:

36-39 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—33-36 Credit Hours

Core—15 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction** (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice** (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours)

* Must be taken in first semester in the program.

**Prerequisites to the Capstone.

Students complete a Capstone Research Project at the end of the program. EDF 6635 is offered in spring semester only.

Specialization—21 Credit Hours

Students take the following courses:

- EDF 6809 Introduction to Comparative and International Education (3 credit hours)
- SSE 5391 Global Education: Theory and Practice (3 credit hours)
- EDF 6855 Equitable Educational Opportunity and Life Chances: A Cross-National Analysis (3 credit hours)
- EDS 6365 Education and National Development (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)

Select two of the following courses:

- EDG 6775 Exploring Global Educational Issues in International Contexts (3 credit hours)
- EEC 6606 Global issues in Early Childhood (3 credit hours)

- Other graduate courses with the program director's approval

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Global, International and Comparative Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Karen Biraimah PhD
Program Director
karen.biraimah@ucf.edu
407-823-2428
ED 209B

Curriculum and Instruction MEd

Gifted Education

TRACK DESCRIPTION

The Gifted Education track in the Curriculum and Instruction MEd program is designed to meet the advanced knowledge and skill needs of educators who teach diverse gifted and talented students.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

CURRICULUM

The Gifted Education track in the Master of Education (MEd) in Curriculum and Instruction program requires 15 credit hours of core courses, including completion of a capstone research project. In addition, students take 18 credit hours of specialization courses.

Total Credit Hours Required:

33-36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—33-36 Credit Hours

Core—15 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction** (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice** (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours)

* Must be taken in first semester in the program.

** Prerequisites for enrolling in Capstone. Students complete a Capstone Research Project at the end of the program. EDF 6635 is offered in spring semester only.

Specialization—18 Credit Hours

- EDF 6247 Developing Advanced Programs and Services: Acceleration and Enrichment for Academically and Intellectually Gifted Learners (3 credit hours)
- EGI 6051 Understanding the Gifted/Talented Student (3 credit hours)
- EGI 6245 Curriculum and Instruction for Teaching Advanced, Gifted and Talented Learners (3 credit hours)
- EGI 6246 Education of Special Populations of Gifted Students (3 credit hours)
- EGI 6417 Guidance and Counseling Strategies for Teachers of Gifted and Talented Individuals (3 credit hours)
- EGI 6305 Theory and Development of Creativity (3 credit hours)

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Gifted Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Gillian Eriksson PhD

Program Director
Gillian.Eriksson@ucf.edu
407-823-6493
Education 223M

Curriculum and Instruction MEd

Intervention Specialist

TRACK DESCRIPTION

The Intervention Specialist Track in the Curriculum and Instruction MEd program provides advanced coursework for educational leaders to use school-based and classroom instructional data to meet the instructional and intervention needs of all students, including at-risk and struggling students, beyond typical, initial classroom instruction within a multi-tiered system of supports.

In addition, this track will provide an advanced multi-disciplinary theoretical approach and applied knowledge base to experienced educators. Coursework focuses on knowledge, skills and competencies for working with students within an intervention framework.

The Intervention Specialist Track is multi-disciplinary and includes coursework in exceptional student education, school psychology, reading education, and math education. The graduate courses provide an opportunity for students to complete the Intervention Specialist track, as well as a graduate certificate, with separate applications required to each program.

CURRICULUM

The Intervention Specialist track in the Master in Education Teacher Leadership program requires 15 credit hours of core courses, including completion of a capstone research project. In addition, students take 18 credit hours of specialization courses.

Total Credit Hours Required:

33-36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—33-36 Credit Hours

Core—15 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction** (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice** (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours)

* Must be taken in first semester in the program.

**Prerequisites to the Capstone.

Students complete a Capstone Research Project at the end of the program. EDF 6635 is offered in spring semester only.

Specialization—18 Credit Hours

- EEX 6218 Diagnostic Assessment and Intervention Planning in Exceptional Education (3 credit hours)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours)
- SPS 6700 Advanced Psychoeducation and Data-Based Decision Making (3 credit hours)
- EGI 6246 Education of Special Populations of Gifted Students (3 credit hours)
- Electives as approved by the program adviser (3 credit hours)

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- One letter of recommendation.
- Goal statement.
- Resume/vita reflecting relevant experience.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Intervention Specialist	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Mary Little PhD
Program Director
mary.little@ucf.edu
407-823-3275
ED 315J

Curriculum and Instruction MEd

Supporting High Needs Populations

TRACK DESCRIPTION

The Supporting High Needs Populations track in the Curriculum and Instruction MEd program is designed to meet the advanced knowledge and skill needs of educators who work in urban settings.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

CURRICULUM

The Supporting High Needs Populations track in the Master of Education (MEd) Curriculum and Instruction program requires 15 credit hours of core courses, including completion of a capstone research project. In addition, students take 18 credit hours of specialization courses.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—33-36 Credit Hours

Core—15 Credit Hours

- EDG 6935 Introductory Seminar in Teacher Leadership* (3 credit hours)
- EDG 6223 Curriculum Theory, Organization and Policy (3 credit hours)
- EDF 6472 Data-Driven Decision Making for Instruction** (3 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice** (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours)

*Must be taken in first semester of program.

**Prerequisites for the Capstone.

Students complete a Capstone Research Project at the end of the program. Students must complete an Intent to Graduate form the semester prior to enrolling in ED 6635. EDF 6635 is offered in spring semester only.

Specialization—18 Credit Hours

Students take the following courses:

- EDF 6725 Critical Issues in the Study of High Needs Populations (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)

Choose four of the following elective courses with adviser approval:

- CCJ 6485 Issues in Justice Policy (3 credit hours)
- ECW 6067 History of Career Education in the United States (3 credit hours)
- EDF 6206 Challenges of Classroom Diversity (3 credit hours)
- EDF 6855 Equitable Educational Opportunity and Life Changes: A Cross-National Analysis (3 credit hours)

- EDF 6886 Multicultural Education (3 credit hours)
- EDG 6636 Impact of Social Contexts on Teaching and Learning (3 credit hours)
- EEX 6342 Seminar: Critical Issues in Special Education (3 credit hours)
- EGI 6246 Education of Special Populations of Gifted Students (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)
- SPS 5605 Building and Improving Relationship and Emotional Intelligence (3 credit hours)
- SPS 6700 Advanced Psychoeducation and Data-Based Decision Making (3 credit hours)

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Supporting High Needs Populations	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				
International Transfer Applicants				

CONTACT INFO

Martha Lue-Stewart PhD
Professor
Program Director
martha.stewart@ucf.edu
407-823-2036
ED 315S

Data Analytics MS

PROGRAM DESCRIPTION

The Master of Science in Data Analytics program provides students with the ability to develop algorithms and computer programs for discovery of information from large amounts of data. This includes the architecture of programs, as well as technical details of algorithm development. Students are expected to be able to write and maintain novel computer programs that make efficient use of cutting-edge computer technology.

Students in this nonthesis program receive a broad background in the areas of parallel programming, machine learning, data mining, and network science while specializing in particular areas of data analytics practice. Students successfully completing this program will have exhibited breadth as well as depth of capability involving discovery of knowledge from "big data."

CURRICULUM

The MS in Data Analytics requires 30 credit hours and includes a project, which is a culminating experience. Students must receive a grade of "B" or higher in all courses.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

An undergraduate degree in computer science, statistics, computer engineering or information technology is desirable but not required. Applicants without a strong undergraduate background in computer science or statistics must demonstrate an understanding of the material covered in the following upper division undergraduate courses:

- COP 3330 Object-Oriented Programming
- COP 3503C Computer Science II
- COP 4710 Database Systems
- STA 2023 Statistical Methods I
- Programming experience or STA 4164 Statistical Methods III

Required Courses—24 Credit Hours

All students are required to take the following courses, for a total of 24 credit hours.

- CAP 5610 Machine Learning (3 credit hours)
- CNT 5805 Network Science (3 credit hours)
- COP 5711 Parallel and Distributed Database Systems (3 credit hours)
- COP 6526 Parallel and Cloud Computation (3 credit hours)
- STA 5206 Statistical Analysis (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 6704 Data Mining Methodology II (3 credit hours)
- CAP 6942 Project in Data Analytics (3 credit hours)

Restricted Elective Courses—6 Credit Hours

All students are required to complete 6 credit hours of approved electives that are selected after consultation with the student's adviser.

- CAP 6307 Text Mining I (3 credit hours)
- CAP 6315 Social Media and Network Analysis (3 credit hours)
- CAP 6318 Computational Analysis of Social Complexity (3 credit hours)
- CAP 6545 Machine Learning Methods for Biomedical Data (3 credit hours)
- CAP 6737 Interactive Data Visualization (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a capstone project in CAP 6942 Project in Data Analytics.

APPLICATION REQUIREMENTS

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Resume/CV
- Letters of recommendation (encouraged but not required)

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

An undergraduate degree in Computer Science, Statistics, Information Technology, or Computer Engineering is desirable but not required. Applicants without a strong undergraduate background in Computer Science and Statistics must demonstrate an understanding of the material covered in upperdivision undergraduate courses listed under the Articulation Section of the Curriculum Information. Applicants may choose to demonstrate their knowledge of these courses by taking these courses as non-degree seeking and scoring "B" or better in all of them.

Application Deadlines

Data Analytics MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Ivan Garibay PhD
Program Director
igaribay@ucf.edu
407-882-1163
UTWR

Digital Forensics MS

PROGRAM DESCRIPTION

The Digital Forensics MS program will consider international applicants only on a case-by-case basis. Please contact the program at czou@cs.ucf.edu to determine eligibility before submitting an official application. The Digital Forensics master's degree is a collaborative effort between various UCF academic departments (Electrical Engineering and Computer Science, Forensic Science of Chemistry, Criminal Justice, and Legal Studies) and the National Center for Forensic Science (NCFS). NCFS is both a national center, as part of the National Institute of Justice Forensic Research Network of the Department of Justice, and a state Type II Center. NCFS is based in the UCF College of Sciences as a forensic science research center and is housed in Orlando's Research Park, adjacent to UCF.

The mission of the MSDF degree program is to provide a quality graduate education in science and practices of digital forensics, to prepare the students for digital forensics jobs, and to prepare the students for a lifetime of learning. The objectives of the program include the following:

To give MSDF graduates the knowledge and skills necessary to participate as an effective team member or team leader in digital evidence investigations.

To prepare MSDF graduates for professional careers in digital forensics examination, forensic tool development, tool verification and validation, security and forensics administration.

To prepare MSDF graduates with the knowledge and skills to pursue advanced studies and research in computer technology or computer crime-related disciplines.

To equip MSDF graduates with the communication skills, both oral and written, to become an effective problem solver as well as an effective communicator as an expert forensic examiner and expert witness.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The Digital Forensics MS degree is comprised of 30 hours of study beyond the bachelor's degree with required, intensive specialization in topics related to digital forensics. The degree program prepares students, including working professionals, who will pursue the degree on a part-time basis to gain the knowledge and skills required to work as an examiner in the field. The program may also be taken by those who have an interest in scientific applications and research in the field, and who would like to continue to a doctoral degree program or law school after completion.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

The program offers both a thesis option (6 credit hours) or an opportunity to complete two additional courses (6 credit hours) selected from the Restricted Electives. At least one half of the credit hours must be at the 6000 level.

Articulation

Undergraduate articulation courses may be required for students with BS and/or MS degrees in fields other than a computer-related field. The articulation courses will be determined by the graduate program director. Students without a computer-related degree must be versed in basic computing and networking knowledge and skills, including computer (PC) hardware, computer operating systems, and computer networking. Appropriate job- or training-related experience may be a suitable substitution, the suitability of which will be determined by the admissions committee. Courses taken to correct deficiencies cannot be used to satisfy minimum degree requirements. Some advanced elective courses require a programming background, specifically in C and C++, computer architecture, and parallel programming.

Required Courses—12 Credit Hours

- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CHS 5504 Topics in Forensic Science (3 credit hours)
- CIS 6207 The Practice of Digital Forensics (3 credit hours)
- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection and Forensic Analysis (3 credit hours)

Restricted Elective Courses—12 Credit Hours

Computing

Select two courses.

- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)
- CNT 6519 Wireless Security and Forensics (3 credit hours)

- CAP 6135 Malware and Software Vulnerability Analysis (3 credit hours)
- CIS 6386 OS and File System Forensics (3 credit hours)
- CIS 6395 Incident Response Technologies (3 credit hours)
- EEE 6347 Trustworthy Hardware (3 credit hours)

Criminal Justice and Electronic Discovery

Select one course.

- CCJ 5015 Nature of Crime (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CCJ 6074 Investigative and Intelligence Analysis: Theory & Methods (3 credit hours)
- CCJ 6704 Research Methods in Criminal Justice (3 credit hours)
- CCJ 6706 Quantitative Methods and Computer Utilization in Criminal Justice or ESI 5219 Engineering Statistics (3 credit hours)
- CJE 6688 Cybercrime and Criminal Justice (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)
- CIS 6206 Electronic Discovery for Digital Forensics Professionals (3 credit hours)

Note: Students can take additional Criminal Justice courses as they fit into a student's research interest and approved Program of Study.

Forensic Science and Legal Studies

Select one course.

- CHS 5596 Forensic Expert in the Courtroom (3 credit hours)
- CHS 5518 The Forensic Collection and Examination of Digital Evidence (3 credit hours)
- PLA 5587 Current Issues in Cyberlaw (3 credit hours)

Thesis Option—6 Credit Hours

- CAP 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

Students not interested in a thesis can instead enroll in two formal courses (6 credit hours) to fulfill the degree requirements.

- Take two electives (total of 6 credit hours) from the list of Restricted Electives above

Equipment Fee

Students in the Digital Forensics MS program pay an $82 equipment fee each semester that they are enrolled. Part-time students pay $41 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis or completing the capstone course CIS 6207.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a resume, 3 letters of recommendation, and a statement of educational, research, and professional career objectives.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Statement of educational, research, and professional career objectives.
- Résumé.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program. The GRE is not required for admission into this program.

Application Deadlines

Digital Forensics MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Cliff Zou PhD
Associate Professor
Program Director
CZou@cs.ucf.edu
407-823-5015
HEC 243

Digital Media MA

PROGRAM DESCRIPTION

The Master of Arts in Digital Media—Visual Language and Interactive Media builds on undergraduate knowledge to develop a mature set of conceptual, theoretical, design, and technical skills needed to communicate stories and messages in a single discipline or in an interdisciplinary environment.

This program teaches students about media theory and creative production using an interdisciplinary research framework drawn from a diverse array of academic disciplines such as art, computer science, english, film, folklore, music and psychology. The curriculum provides the theoretical and practical skills necessary to work both in individual and group settings.

The School of Visual Arts and Design faculty have extensive professional and academic experience in areas spanning film, video, multimedia, interactive and web design, human centered interactive design, exhibition and theme park design, simulation and training, game development, broadcast design and motion graphics, animation, visual language, immersive design environments, database design, e-commerce, and educational technology and community development.

APPLICATION REQUIREMENTS

Applicants must choose the track in this program. Applicants must choose the track in this program.

CONTACT INFO

Natalie Underberg-Goode PhD
Associate Professor
Program Director
natalie.underberg-goode@ucf.edu
407-823-1140
PO Box 163121

Digital Media MA

Visual Language and Interactive Media

TRACK DESCRIPTION

In the Visual Language and Interactive Media track of the Digital Media MA program students explore new media in creative and research projects that foster a unique contribution characterized as innovative in approach.

This degree program builds on undergraduate knowledge to build a mature set of conceptual, theoretical, design, and technical skills needed to communicate stories and messages in a single discipline or in an interdisciplinary environment. The program has a nonthesis and a thesis option. The thesis option requires completion of a six-hour thesis project. Work on the thesis will extend the capabilities of interfaces and measure the effectiveness of storytelling, training, and communicating in the modern world. Students may be admitted on either a full-time or part-time basis.

This MA track is embedded in a rich environment of digital media work at UCF and in the surrounding community. The following are active areas of work at UCF:

- Digital media in instructional applications
- Experience design
- Interactive performance
- Serious games for training and education
- Information architecture for the World Wide Web
- Social and collaborative media design
- Cultural heritage preservation using new media

The School of Visual Arts and Design faculty have extensive professional and academic experience in areas spanning film, video, multimedia, interactive and web design, simulation and training, game development, broadcast design and motion graphics, animation, visual language, immersive design environments, database design, e-commerce, digital storytelling and educational technology and community development.

CURRICULUM

During the first academic year, students take required courses as dictated by the student's plan of study and electives suggested by their adviser. The MA graduate program coordinator is the adviser for all nonthesis students. The coordinator is also the adviser for all thesis students until a Digital Media MA faculty mentor agrees to work with the student. The faculty mentor then becomes the student's graduate adviser.

In the second year, students who select the thesis option will complete core and required course work as well as thesis research. Thesis students must be accepted by a faculty member for supervision in order to carry out the required thesis study. Thesis option students are encouraged to begin this process immediately upon entering the program by meeting faculty who work in areas of interest complementary to the student's. Nonthesis option students will complete core, required course work and electives as recommended by the MA program coordinator.

Typically, students entering or continuing professional careers following the MA should select the nonthesis option. Those who plan to enter doctoral programs should select the thesis option.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—21 Credit Hours

- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- DIG 5137 Information Architecture (3 credit hours)
- DIG 5487 Principles of Visual Language (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- DIG 6136 Design for Media (3 credit hours)
- DIG 6546 Previsualization and Concept Development (3 credit hours)
- DIG 6551 Applied Interactive Story (3 credit hours)

Thesis Option—15 Credit Hours

- DIG 6825 Digital Media Research Methods (3 credit hours)
- DIG 6918 Directed Research (3 credit hours)

- DIG 6605 Physical Computing (3 credit hours)
- DIG 6971 Thesis/Research Report (6 credit hours)

Each candidate for the Master of Arts submits a thesis prospectus and preliminary bibliography on a topic selected in consultation with the adviser. The formal thesis is initiated by the preparation of a proposal that meets both departmental and university requirements for the thesis. Prior to enrollment into thesis credit hours, the adviser, in consultation with the student, designates a Thesis Committee to be further approved by the College Graduate Dean. This committee is chaired by the adviser and includes two or more additional faculty members from the School of Visual Arts and Design.

The members of the student's thesis committee judge the proposal as the preliminary step to beginning the thesis. This committee must approve the Thesis Proposal before academic credit can accrue.

The thesis is a formal written document. The introduction cites similar, related, and antecedent work. The body explains the purposes of the project, the method of its production, and any evaluation that was performed. The conclusion includes plans for future work. The thesis also includes an archival copy of the resulting creative product. Both the thesis and the creative product must be delivered in digital form, acceptable by the UCF library according to its standards for digital dissertations and theses.

Thesis Defense

In addition to a written thesis, the final step in completing the thesis requirement is an oral defense before the thesis committee. Candidates must present their creative or research work and explain its creation in an oral defense. These presentations are made to the student's committee in a public meeting that other faculty and students may attend.

Nonthesis Option—15 Credit Hours

Students selecting the nonthesis option are required to complete 6 addtional credit hours of required courses and 9 credit hours of electives:

- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- DIG 5565C Digital Asset Management (3 credit hours)
- Electives (9 credit hours)

Many graduate-level courses in the College of Arts and Humanities can be used as electives, based on an adviser-approved plan of study. In addition, other graduate courses may be used in place of those listed above, with permission of the adviser. These courses must be selected so as to ensure that at least one-half of the courses in the student's plan of study are taken at the 6000 level.

Comprehensive Examinations

Digital Media MA students must take a Comprehensive Examination. The process is designed to evaluate both the students' basic knowledge and competencies, and their ability to synthesize and apply what they know in depth—that is, both the breadth and depth of student learning in the Program. It is not intended to test specific course content for which students have already been evaluated and graded. The exam is designed to test the student's ability to respond and substantiate the response in a professional and educated fashion.

The Comprehensive Examination consists of five general categories. Students answer four questions in a total maximum time of four hours. Students will be given the opportunity to select one question from any four of the five categories, i.e., 1. Technology and Theory: development , effects, uses; 2. Media history: New media, cinema, television;

INDEPENDENT LEARNING

Students who elect the thesis option engage in independent learning through the design and implementation of original research in the thesis process. Students who pursue the comprehensive exam option experience independent learning through their individual preparation for comprehensive exams. All students engage in independent learning in every Digital Media core course. A research paper or project is required in each of these classes. The papers and projects provide independent learning by requiring students to design and carry out research projects and develop analytical papers, some of which are submitted to conferences and/or journals for peer review. Internships and independent studies are also common opportunities for independent learning in the Digital Media MA Program.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a bachelor's degree in a media-related creative or technical field such as art, film, animation, theater, music, digital media, computer science, English or education in the arts, a written statement, and three letters of recommendation.

In addition to the general UCF graduate application requirements, applicants to this must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in a media-related creative or technical field such as art, film, animation, theater, music, digital media, computer science, English or education in the arts.
- Official, competitive GRE score taken within the last five years.
- A written statement (not to exceed 250 words) describing the student's personal goals, objectives, and research interests in seeking the degree.
- Three letters of recommendation from former professors or employers who can address applicant's ability to undertake graduate-level courses.

Desirable background skills for this degree include computer and software literacy. Examples include mastery of Macintosh and PC workstations that are configured with a diverse range of hardware and software for production and editing of images and sound for stories and messages.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, the applicant's potential for completing the degree, and the current applicant pool.

Application Deadlines

Visual Language and Interactive Media	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Natalie Underberg-Goode PhD
Associate Professor
Program Director
natalie.underberg-goode@ucf.edu
407-823-1140
PO Box 163121

Early Childhood Development and Education MS

PROGRAM DESCRIPTION

The Master of Science program in Early Childhood Development and Education (ECDE) is designed to meet the needs of professionals who want to work with young children and their families. The ECDE program delivers relevant, rigorous course work and related academic experiences.

The program is designed for candidates with undergraduate degrees in a wide range of areas either related to early childhood development and education, such as child development, psychology, communication disorders, sociology, nursing, theatre, music or other degrees. The program of study includes advanced professional development in early child development and education for careers with direct and indirect services for young children and families. Direct early education services to young children and families can include homes, schools, and other community settings, such as child care and Head Start. Indirect services can include: child assessment, program evaluation, child care resource and referral, early learning coalitions, community college instruction, and child advocacy. Graduates of this program are encouraged to serve as a bridge among schools and community agencies and to nurture leadership skills in these areas.

In addition to fostering the professional development of previously certified early childhood teachers, this program will also serve as a bridge among schools and community agencies and will provide the educational experiences to nurture educational leaders who will work within and across these areas.

CURRICULUM

The Early Childhood Development and Education MS program requires a minimum of 36 credit hours beyond the bachelor's degree, including 6 credit hours of core courses, 18 credit hours of specialization courses, 6 credit hours of electives, and 6 credit hours of a capstone experience in the form of a thesis or nonthesis/practicum option.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Students should initially and periodically meet with an academic adviser to plan their program of electives in relation to their desired career goals, develop a program of study and timeline for their course work completion, and plan for the capstone culminating experience.

The MS does not lead to initial teacher preparation through the state-approved program route. Students interested in certification may contact the Florida Bureau of Teacher Certification Florida Department of Education directly at www.fldoe.org/edcert/.

Required Courses—24 Credit Hours

Core—6 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours; prerequisite for EDF 6401)
- EDF 6401 Statistics for Educational Data (3 credit hours)

Specialization—18 Credit Hours

- EEC 5205 Programs and Trends in Early Childhood Education (3 credit hours)
- EEC 6269 Play Development, Intervention, and Assessment (3 credit hours)
- EEC 6405 Home-School-Community Interaction in Early Childhood Education (3 credit hours)
- EEC 6406 Guiding and Facilitating Social Competence (3 credit hours)
- EEC 6606 Global Issues in Early Childhood (3 credit hours)
- EEX 6222 Observation and Assessment of Young Children (3 credit hours)

Elective Courses—6 Credit Hours

- EEC 6216 Communicative Arts in Early Childhood Education (3 credit hours)
- EEX 6017 Typical and Atypical Applied Child Development (3 credit hours) (Required if no undergraduate course in child development)
- EEX 5702 Planning Curriculum for Pre-Kindergarten Children with Disabilities (3 credit hours)
- EEX 5750 Communication with Parents and Agencies (3 credit hours)
- MHS 6403 Techniques of Play Therapy and Expressive Arts (3 credit hours)
- MHS 6421 Foundations of Play Therapy and Play Process (3 credit hours)
- SOW 6726 Social Work Practice with Children from Birth to Age Five and Their Families (3 credit hours)
- Other courses of interest with consent of faculty

Thesis Option—6 Credit Hours

- EEC 6971 Thesis (6 credit hours)

Nonthesis Option—6 Credit Hours

- EEC 6947 Practicum (6 credit hours) OR 6 credit hours of approved electives with a written comprehensive examination

INDEPENDENT LEARNING

A thesis, practicum, or a written comprehensive examination is required as the culminating experience for the program.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, resumé, and an essay detailing career goals or a writing sample.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation from academic sources.
- Professional resumé.
- Essay detailing career goals.
- An interview (in person, by internet, or by phone) scheduled by the Early Childhood Graduate faculty.
- A guided 1-page written essay during the interview.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Admission materials will be scored on a rubric to quantify decision criteria.

Students who do not meet published admission requirements may be admitted provisionally and will be interviewed by a faculty program committee whose recommendations will be forwarded to the master's admission and retention committee in accordance with College of Education and Human Performance code for final admission action. Other admission factors that may be used in selecting students for provisional admission to the program are previous teaching experience or work (i.e., social service agencies) with infants and young children, pre-kindergarten or primary age children and their families.

Application Deadlines

Early Childhood Development and Education MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Judit Szente PhD
Associate Professor
Program Director
judit.szente@ucf.edu
407-823-0045
Education 122Q

Economics MS

PROGRAM DESCRIPTION

The Master of Science in Economics is accepting applications for the Fall 2017 semester.

The Master of Science in Economics degree program prepares students as economists specializing in business analytics. The program provides students with the necessary theoretical and quantitative training to address current economic business problems in a thoughtful, rigorous manner.

Today's job market offers numerous opportunities to individuals who couple an advanced understanding of economic theory with well-developed skills in data analytics.

CURRICULUM

The Economics MS program requires a minimum of 30 credit hours beyond the bachelor's degree.

All candidates for the MS degree must complete the end-of-program requirement, ECO 6XXX Capstone in Business Analytics I and ECO Capstone in Business Analytics II.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—24 Credit Hours

Fall Term

- ECO 6403 Mathematical Economics (3 credit hours)
- ECO 6118 Microeconomic Theory I (3 credit hours)
- ECO 5445 Introduction to Business Analytics (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)

Spring Term

- ECO 6424 Econometrics I (3 credit hours)
- ECO 7116 Microeconomic Theory I (3 credit hours)

- HIM 6217C Health Care Database Management (3 credit hours)
- ECO 6315 Seminar in Contemporary Economic Issues (3 credit hours)

End-of-Program Requirement—6 Credit Hours

The culminating academic experience of the program consists of a two-course capstone sequence that provides students a forum in which to develop, carry out, and write up research of a well-defined problem in business analytics using the tools developed in the program.

- ECO 6935 Capstone in Business Analytics I (3 credit hours)
- ECO 6936 Capstone in Business Analytics II (3 credit hours)

INDEPENDENT LEARNING

The capstone research project is required of all students in the program.

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Résumé.
- Essay (no more than two pages; 8.5 x 11-inch stock, ten-point font, single-spaced, one-inch margins all around), explaining why candidate wants to study business analytics
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Economics MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Harry Paarsch PhD
Professor
Program Director
harry.paarsch@ucf.edu
407-823-1576
BA2 – 302M

Educational Leadership MA

PROGRAM DESCRIPTION

The online Master of Arts in Educational Leadership program is not a state approved program for certification in Florida. The program is designed to prepare students for administrative and leadership positions in school settings and other education-related fields that specifically do NOT require certification (some examples include private school headmaster, community college of university staff administrator, or museum administrator). The Educational Leadership MA also offers two tracks focused on higher education: Higher Education/Student Personnel and Community College Education, both of which have different admission, enrollment, and graduation requirements.

The Higher Education/Community College Education track is designed for individuals whose goal is to teach at the community college level. The Higher Education/Student Personnel track is designed to prepare students for leadership positions in a variety of student personnel/affairs departments on college and university campuses and education-related fields. Note, these programs have different admission, enrollment, and graduation requirements.

CURRICULUM

The Educational Leadership MA program requires a minimum of 30 credit hours beyond the bachelor's degree, including 9 credit hours of research and measurement courses and 21 credit hours of administration courses. The courses may be taken in any order the student wishes but the culminating Research Report (EDA 6909) must be taken last.

Students enrolled in the Florida state-approved MEd, EdS, or Modified Core programs in educational leadership may not take these online courses for credit unless approved by their educational leadership faculty adviser.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

The MA program does not fulfill state certification requirements.

Required Courses—30 Credit Hours

Research and Measurement—9 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours) **OR** EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDA 6909 Research Report (3 credit hours)

Administration—21 Credit Hours

It is recommended that these courses be taken in the following sequence.

- EDA 6061 Organization and Administration of Schools (3 credit hours)
- EDS 6123 Educational Supervisory Practices I (3 credit hours)
- EDA 6232 Legal Aspects of School Operation (3 credit hours)
- EDA 6240 Educational Financial Affairs (3 credit hours)
- EDA 6260 Educational Systems Planning and Management (3 credit hours)
- EDA 6300 Community School Administration (3 credit hours)
- EDA 6931 Contemporary Issues in Educational Leadership (3 credit hours)

Independent Learning

Students are required to successfully complete a research report. For more information, contact the graduate program director.

INDEPENDENT LEARNING

A research report is required.

APPLICATION REQUIREMENTS

Applicants may apply to the online MA or one of the two tracks offered within the MA in Educational Leadership. The track programs are not online programs and may have different requirements.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applicants may apply to the online MA or one of the two tracks offered within the MA in Educational Leadership. The track programs are not online programs and may have different requirements.

Application Deadlines

Educational Leadership MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Kenneth Murray JD, PhD
Associate Professor
Program Director
kenneth.murray@ucf.edu
407-823-1468
Education 222K

Educational Leadership MA

Higher Education / Student Personnel

TRACK DESCRIPTION

The Higher Education/Student Personnel Track in the Educational Leadership MA program is designed to prepare students for leadership positions in student personnel administration in higher education and education-related fields.

Higher Education Professionals work in a variety of settings on college and university campuses, from financial aid, orientation, and residence life to athletics, international services, and student activities. They provide services and develop programs that affect all aspects of students' lives inside and outside of the classroom.

Given the focus of the program, this master's degree does not lead to fulfillment of K-12 teacher certification requirements.

CURRICULUM

The Higher Education/Student Personnel track in the Educational Leadership MA program requires a minimum of 39 credit hours beyond the bachelor’s degree, including six credit hours of core courses, 24 credit hours of specialization, three credit hours of electives, six credit hours of professional field experience, and passing a comprehensive exam at the end of studies.

Given the focus of the program, this master's degree does not lead to fulfillment of K-12 teacher certification requirements.

Total Credit Hours Required:

39 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—30 Credit Hours

Core—6 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours) **OR** EDF 6401 Statistics for Educational Data (3 credit hours)

Specialization—24 Credit Hours

Select 8 courses from the following list.

- EDH 6635 Organization and Administration of Higher Education (3 credit hours)
- EDH 6065 History and Philosophy of Higher Education (3 credit hours)
- EDH 6505 Finance in Higher Education (3 credit hours)
- EDH 6935 Capstone Seminar in Student Personnel (3 credit hours)
- EDH 6407 Ethical and Legal Issues in College Student Personnel (3 credit hours)
- EDH 6634 Student Personnel Services in Higher Education (3 credit hours)
- EDH 6044 Career Exploration in Higher Education (3 credit hours)
- EDH 6047 Theories of College Student Development (3 credit hours)
- EDH 6105 Retention Strategies in Colleges and Universities (3 credit hours)

Elective Courses—3 Credit Hours

- Electives approved by adviser

Professional Field Experience—6 Credit Hours

- EDH 6946 Higher Education Internship (3 credit hours)
- EDH 6947 Practicum in Student Personnel (3 credit hours)

INDEPENDENT LEARNING

Both an internship and practicum are required for completing the degree, in addition to a capstone seminar.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, resumé, and a personal statement. The Higher Education/Student Personnel track in the Educational Leadership MA program is designed to prepare students for leadership positions in student personnel administration in higher education and education-related fields. This track considers new applicants during the FALL SEMESTER ONLY.

(Please note that this program does not fulfill K-12 teacher education certification requirements).

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation, with one being from a staff, administrator, or faculty at a college or university familiar with your involvement or engagement in postsecondary education.
- Resumé.

- Personal statement explaining your past, present, and future involvement in events or activities related to your development in College Student Personnel.

An individual and group interview may be required. The Higher Education/Student Personnel track admits in fall term only.

Application Deadlines

Higher Education / Student Personnel	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Rosa Cintron PhD
Associate Professor
Program Director
rosa.cintrondelgado@ucf.edu
407-823-1248
ED 206K

Educational Leadership MA

Student Athlete Support Services

TRACK DESCRIPTION

Admission to this program has been suspended effective Summer 2015. The Student Athlete Support Services (SASS) Track in the Educational Leadership MA program prepares student support personnel for professional career positions working in athletic departments.

CURRICULUM

Total Credit Hours Required:

39 Credit Hours Minimum beyond the Bachelor's Degree

The Student Athlete Support Services track in the Educational Leadership MA program requires a minimum of 39 credit hours beyond the bachelor's degree, including six credit hours of core courses, 27 credit hours of specialization, six credit hours of professional field experience, and passing a comprehensive exam at the end of studies.

The MA program does not fulfill state certification requirements.

Required Courses—33 Credit Hours

Core—6 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6432 Measurement and Evaluation in Education (3 credit hours)

Specialization—27 Credit Hours

- EDH 6635 Organization and Administration of Higher Education (3 credit hours)
- EDH 6065 History and Philosophy of Higher Education (3 credit hours)
- EDH 6935 Capstone Seminar in Student Personnel (3 credit hours)
- EDH 6407 Ethical and Legal Issues in Student Personnel (3 credit hours)
- EDH 6634 Student Personnel Services in Higher Education (3 credit hours)
- EDH 6047 Theories of College Student Development (3 credit hours)
- EDH 6655 Athletics in the American University (3 credit hours)
- EDH 6656 Academic Success and the Student Athlete (3 credit hours)
- ADE 6678 The Socio-Historical Context of Adult Education (3 credit hours)

Professional Field Experience—6 Credit Hours

- EDH 6946 Higher Education Internship (3 credit hours)
- EDH 6947 Practicum in Student Athlete Support Services (3 credit hours)

INDEPENDENT LEARNING

Both an internship and practicum are required for completing the degree, in addition to a capstone seminar.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation, with one being from a staff, administrator, or faculty at a college or university familiar with your involvement or engagement in postsecondary education.
- Resumé.
- Personal statement explaining your past, present, and future involvement in events or activities related to your development in Student Athlete Support Services.

An individual and group interview may be required. The Student Athlete Support Services track admits in fall and spring terms only.

Application Deadlines

Student Athlete Support Services	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				
International Transfer Applicants				

CONTACT INFO

Brenda Thompson EdD
Program Director
heps@ucf.edu
407-823-4164
Education 206E

Educational Leadership MA

Higher Education / Community College Education

TRACK DESCRIPTION

The Higher Education/Community College Education track in the Educational Leadership MA program is designed for individuals planning to teach at that level and neither requires state teacher certification for admission nor prepares candidates for state teacher certification.

The Higher Education/Community College Education track considers new applicants during fall and spring semesters only; passing a comprehensive exam at the end of the program is a graduation requirement.

CURRICULUM

Total Credit Hours Required:

42 Credit Hours Minimum beyond the Bachelor's Degree

The Higher Education/Community College Education track in the Educational Leadership MA program is designed for individuals whose goal is to teach at the community college level. Every attempt is made to build the minimum required 18 hours of graduate-level content area courses into the program of study. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in the content area. Students electing this track will not meet state requirements for teacher certification in grades K-12. Successfully passing a comprehensive exam at the end of the program is a final graduation requirement.

Required Courses—24 Credit Hours

Students in this track should consult with the Higher Education/Community College Education adviser regarding core requirements prior to registering for core courses.

- EDH 6053 The Community College in America (3 credit hours)
- EDH 6081 Contemporary Problems in the Community College (3 credit hours)
- EDH 6204 Community College Organization, Administration and Supervision (3 credit hours)
- EDH 6215 Community College Curriculum (3 credit hours)
- EDH 6305 Teaching and Learning and Community College (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- IDS 6504 Adult Learning (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours) **or** EDF 6432 Measurement and Evaluation in Education (3 credit hours)

Elective Courses—18 Credit Hours

Courses must be approved by the student's adviser in one of the following disciplines:

- Art
- English
- Math
- Science
- Social Science

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Higher Education / Community College Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Thomas Cox EdD
Program Director
thomas.cox@ucf.edu
ED 220Q

Educational Leadership MEd

PROGRAM DESCRIPTION

The Master of Education in Educational Leadership program is intended for those who wish to work in leadership positions and administrative careers in education. The MEd program provides theoretical and conceptual knowledge base and practical application required for principalship and for Florida Level I Educational Leadership certification.

Courses required in the program address the Florida Educational Leadership Standards and the Florida Educational Leadership Examination (FELE) competencies and indicators.

CURRICULUM

The Educational Leadership MEd program requires a minimum of 36 credit hours beyond the bachelor's degree, including 30 credit hours of core courses and 6 credit hours of required administrative internship. Courses may be taken in any sequence with the exception of EDA 6946, which must be taken during the last two semesters.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

The MEd program provides the theoretical and conceptual knowledge base with practical application required for the principalship and for Florida Level I Educational Leadership certification. Courses required in the program address the Florida Educational Leadership Standards and Florida Educational Leadership Examination (FELE) competencies and indicators required by the Florida Department of Education. Students are required to pass the FELE for graduation. An MEd in Educational Leadership or its equivalent, and successful completion of the FELE, are required by the state of Florida for Level 1 Educational Leadership certification (Certification is subject to Florida Department of Education approval).

The MEd program requires an administrative internship. The internship is an independent learning activity that takes place in a regular K-12 public school setting in which students must apply, reflect on, and refine knowledge and skills acquired in the program. For more information concerning the Educational Leadership internship, please refer to the Educational Leadership website at:education.ucf.edu/edleadership (click on Guide to the Administrative Internship).

MEd students in Educational Leadership will document experience with each of the Florida Principal Leadership Standards (FPLS) and Florida Educational Leadership Exam (FELE) competencies during the EDA 6946 Administrative Internship. This documentation and successful completion of the administrative internship (grade of A or B) will serve as the culminating experience required for graduation.

Modified Leadership Core Program for Those with Graduate Degrees in Other Disciplines

If an individual holds a graduate degree with a major other than Educational Administration, Administration, Supervision or Educational Leadership, certification may be obtained through completion of an approved modified program in Educational Leadership. The UCF modified program consists of the seven core courses and Administrative Internship course of the Educational Leadership MEd degree. Request an evaluation of prior graduate course work (required for admission into the program) on the following website: education.ucf.edu/edleadership/.

Required Courses—36 Credit Hours

Core—30 Credit Hours

The program recommends that students take these courses in the following sequence:

- EDA 6061 Organization and Administration of Schools (3 credit hours)
- EDA 6232 Legal Aspects of School Operation (3 credit hours)
- EDA 6240 Educational Financial Affairs (3 credit hours)
- EDA 6260 Educational Systems Planning and Management (3 credit hours)
- EDA 6931 Contemporary Issues in Educational Leadership (3 credit hours)
- EDA 6423 Data-Based Decision Making for School Educational Leaders (3 credit hours)
- EDS 6123 Educational Supervisory Practices I (3 credit hours)
- EDS 6130 Educational Supervisory Practices II (3 credit hours)
- EDA 6300 Community School Administration (3 credit hours)
- EDA 6502 Organization and Administration of Instructional Programs (3 credit hours)

Internship—6 Credit Hours

The internship should be completed during or after the last two semesters of coursework listed above.

- EDA 6946 Administrative Graduate Internship (6 credit hours; 2 semesters, 3 hours each of internship)

Additional Program Requirements

- Complete the Administrative Graduate Internship with a minimum grade of B.
- Pass all applicable sections of the Florida Educational Leadership Examination.

Equipment Fee

Students in the Educational Leadership MEd program pay a $32 equipment fee each semester that they are enrolled. Part-time students pay $16 per semester.

INDEPENDENT LEARNING

The MEd program requires an administrative internship. The administrative internship is an independent learning activity that takes place in a regular K-12 public school setting in which students must apply, reflect on, and refine knowledge and skills acquired in the program. For more information concerning the Educational Leadership internship, please refer to the Educational Leadership website at: http://education.ucf.edu/edleadership (click on Internship Guide).

APPLICATION REQUIREMENTS

Applicants are asked to provide an official transcript.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A letter of recommendation from a principal or other administrator addressing your potential lead and instructional expertise.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Educational Leadership MEd	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Kenneth Murray JD, PhD
Associate Professor
Program Director
kenneth.murray@ucf.edu
407-823-1468
Education 222K

Electrical Engineering MSEE

- Accelerated BS to MSEE

PROGRAM DESCRIPTION

The Master of Science in Electrical Engineering students receive a broad background in areas such as electromagnetics and optics, signal processing and systems, and micro-systems and nano-systems.

The Department of Electrical Engineering (Electrical Engineering Program) supports a number of technical (research) areas in which a Master of Science student may specialize. These technical areas are: Electromagnetics and Optics (EO), Signal Processing and Systems (SPS), and Micro-Systems and Nano-Systems (MNS). The Micro-Systems and Nano-Systems area covers the typical Electrical Engineering topic areas of Electronics, Power Electronics and Micro-Electronics, while the Signal Processing and Systems area covers the typical electrical topic areas of communications, controls, and signal processing. All MSEE programs offer a thesis and a nonthesis option, as well as an Accelerated BS to MSEE program. Students in the program receive a broad background in the various technical areas, while specializing in a research area of their interest.

The specific research area that each one of the EE faculty conduct can be found at the Department of EE website (www.ece.ucf.edu/).

CURRICULUM

The master's program offers both a thesis option and a nonthesis option in a technical specialization area. The thesis option requires 30 credit hours of courses that includes 24 credit hours of formal coursework and 6 credit hours of thesis. The nonthesis option requires 30 credit hours of coursework with 24 credit hours of formal coursework with a possibility of 6 credit hours of Independent Study (e.g., XXX 6908) based on availability of interested faculty.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Articulation

Undergraduate articulation courses are required to be completed prior to admission for students who do not hold a Bachelor of Science degree in Electrical Engineering. In particular, the articulation courses specified below, plus all of the prerequisite string which any of them require, must be completed prior to admission. Grades of "B" or higher must be obtained in each articulation course specified below. Articulation courses are not eligible for inclusion on a graduate Program of Study.

- EEL 3123C Network and Systems
- EEE 3307C Electronics I
- EEL 3470 Electromagnetic Fields
- EEL 3552 Signal Analysis and Communications
- EEE 3350 Semiconductor Devices I

In addition, choose one of the following:

- EEL 3657 Linear Control Systems
- EEE 4309C Electronics II
- EEL 4750 Digital Signal Processing Fundamentals

Elective Courses—24 Credit Hours

There are no required courses within a specialization area, however, all students (thesis and nonthesis) must choose at least 24 credit hours of formal courses, excluding research-related courses and Independent Study (XXX 6908) that emphasize their specialization area. Courses from outside specialization areas could also be chosen if they are approved by the student's adviser and incorporated into the Program of Study for the student.

The Program of Study (POS) form must be approved by an adviser in the selected specialization area no later than the end of the second semester after admission. The program of study must meet all the university requirements specified in the graduate catalog and must also receive departmental-level and college-level approval.

Suggested Courses for the MSEE Program

The Electrical Engineering Program supports a number of specialization areas. These technical areas are: Electromagnetics and Optics (EO), Signal Processing and Systems (SPS), and Micro-Systems and Nano-Systems (MNS). The Micro-Systems and Nano-Systems area covers the typical Electrical Engineering topic areas of Electronics, Power Electronics and Micro-Electronics, while the Signal Processing and Systems area covers the typical electrical topic areas of communications, controls, and signal processing.

For each one of these areas there is a suggested list of courses stated below. Students are also allowed to take courses from other specialization areas, but the majority of their courses should be chosen from courses in their specialization area.

Electromagnetics and Optics (EO)

- EEE 5542 Random Processes I (3 credit hours)
- EEE 5557 Introduction to Radar Systems (3 credit hours)
- EEL 5437C Microwave Engineering (3 credit hours)
- EEL 5439C RF and Microwave Communications (3 credit hours)
- EEL 5462C Antenna Analysis and Design (3 credit hours)
- EEL 5432 Satellite Remote Sensing (3 credits)
- EEL 6425C RF and Microwave Measurement Techniques (3 credit hours)
- EEL 6463 Antenna Analysis and Design II (3 credit hours)
- EEL 6488 EM Theory II (3 credit hours)
- EEL 6481 Numerical Techniques in Electromagnetics (3 credit hours)
- EEL 6482 Electromagnetic Theory I (3 credit hours)
- EEL 6489 Advanced Topics in Electromagnetics (3 credit hours)
- EEL 6504 Communication System Design (3 credit hours)
- EEL 6530 Communication Theory (3 credit hours)
- MAP 5426 Special Functions (3 credit hours)
- MAP 5435 Advanced Mathematics for Engineers (3 credit hours)
- MAP 6424 Transform Methods (3 credit hours)
- OSE 5041 Introduction to Wave Optics (3 credit hours)
- OSE 5414 Fundamentals of Optoelectronic Devices (3 credit hours)
- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 6115 Interference and Diffraction (3 credit hours)
- OSE 6143 Fiber Optics Communications (3 credit hours)
- OSE 6211 Fourier Optics (3 credit hours)

- OSE 6225 Radiometry and Detection (3 credit hours)
- OSE 6421 Integrated Optics (3 credit hours)
- OSE 6432 Fundamentals of Photonics (3 credit hours)
- OSE 6445 High Speed Photonics (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)

Micro-Systems and Nano-Systems (MNS)

- BME 5572 Biomedical Nanotechnology (3 credit hours)
- EEL 5245C Power Electronics (3 credit hours)
- EEE 5332C Thin Film Technology (3 credit hours)
- EEE 5352C Semiconductor Materials and Device Characterization (3 credit hours)
- EEE 5353 Semiconductor Device Modeling and Simulation (3 credit hours)
- EEE 5356C Fabrication of Solid-State Devices (3 credit hours)
- EEE 5370 Operational Amplifiers (3 credit hours)
- EEE 5378 CMOS Analog and Digital Circuit Design (3 credit hours)
- EEE 5390C Full-Custom VLSI Design (3 credit hours)
- EEE 5555 Surface Acoustic Wave Devices and Systems (3 credit hours)
- EEE 6317 Power Semiconductor Devices and Integrated Circuits (3 credit hours)
- EEE 6358 Advanced Semiconductor Device I (3 credit hours)
- EEL 6246 Power Electronics II (3 credit hours)
- EEE 6326C MEMS Fabrication Laboratory (3 credit hours)
- EEE 6338 Advanced Topics in Microelectronics (3 credit hours)
- EEE 6371 Advanced Electronics I (3 credit hours)
- EEE 6372 Advanced Topics in Electronics (3 credit hours)

Signal Processing and Systems (SPS)

- EEE 5513 Digital Signal Processing Applications (3 credit hours)
- EEE 5542 Random Processes I (3 credit hours)
- EEE 5557 Introduction to Radar Systems (3 credit hours)
- EEE 6504 Adaptive Digital Signal Processing Applications (3 credit hours)
- EEE 6508 Advanced Topics in Digital Signal Processing (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 5630 Digital Control Systems (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 6504 Communication System Design (3 credit hours)
- EEL 6530 Communication Theory (3 credit hours)
- EEL 6590 Advanced Topics in Communications (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 5630 Digital Control Systems (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 6619 Nonlinear Robust Control (3 credit hours)
- EEL 6621 Nonlinear Control Systems (3 credit hours)
- EEL 6662 Design of Robot Control Systems (3 credit hours)
- EEL 6667 Planning and Control for Mobile Robotic Systems (3 credit hours)
- EEL 6671 Modern and Optimal Control Systems (3 credit hours)
- EEL 6674 Optimal Estimation for Control (3 credit hours)
- EEL 6616 Adaptive Control (3 credit hours)
- EEL 6680 Advanced Topics in Modern Control Systems (3 credit hours)
- EEL 6683 Cooperative Control of Networked Autonomous Systems (3 credit hours)

- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EEL 5669 Autonomous Robotic Systems (3 credit hours)
- EEL 6026 Optimization of Engineering Systems (3 credit hours)
- CAP 5015 Multimedia Compression in the Internet (3 credit hours)
- CAP 5415 Computer Vision (3 credit hours)
- CAP 6411 Computer Vision Systems (3 credit hours)
- CAP 6412 Advanced Computer Vision (3 credit hours)
- CAP 6419 3D Computer Vision (3 credit hours)

Thesis Option—6 Credit Hours

The thesis option requires 6 credit hours of thesis work (EEL 6971) in addition to the 24 credit hours of formal elective courses.

- EEL 6971 Thesis (3 credit hours, taken twice)

Please note the following requirements for this option:

- 24 credit hours of courses must be taken in the student's chosen specialization area.
- No more than 6 credits of thesis (EEL 6971) will be counted toward the degree requirement.
- At least half of the coursework, including Thesis XXX 6971, must be at the 6000-level (typically at least 15 credit hours).
- Thesis students who are full time must continue to enroll in three credit hours of thesis coursework each semester until the thesis requirement is satisfied, beyond the minimum of 6 credit hours of thesis, but only 6 hours total will count toward the degree requirement.

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website and on the university-wide Events Calendar at the College of Graduate Studies website at least **two weeks** before the defense date.

Nonthesis Option—6 Credit Hours

The nonthesis option is especially suited for part-time students. Nonthesis students must complete 6 credit hours of electives in addition to the 24 credit hours of formal coursework described above.

- Electives (6 credit hours)

If approved by the student's adviser, the student may include a total of 6 credit hours as an Independent Study (XXX 6908). At least half of the coursework must be at the 6000-level (typically at least 15 credit hours).

Portfolio Requirement

Students are required to complete a culminating experience. The culminating experience for nonthesis MS students is submission of their portfolio of activities by the course withdrawal date of the semester prior to their intended graduation. Portfolio requirements are listed on the EECS website at http://www.eecs.ucf.edu/.

Transfer Credits

Graduate students with a bachelor's degree in Electrical Engineering from UCF may transfer up to 9 credit hours of 5000-level or higher coursework, with grades of B or higher, toward the MSEE degree. Alternatively, a maximum of 9 credit hours may be transferred of graduate work conducted elsewhere from an accredited institution.

Equipment Fee

Students in the Electrical Engineering MSEE program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 per semester.

INDEPENDENT LEARNING

The independent learning requirement is met by successful completion of a master's thesis or an approved portfolio of activities for nonthesis students.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor's degree in Electrical Engineering or a related discipline, an official, competitive GRE score taken within the last five years, résumé, a statement of educational, research, and professional career objectives, and two letters of recommendation.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Electrical Engineering or a related discipline.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

Application Deadlines

Electrical Engineering MSEE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Kalpathy Sundaram PhD
Professor
Program Director
eecpe-grad@eecs.ucf.edu
407-823-5326
HEC 439B

Electrical Engineering MSEE

Accelerated BS to MSEE

TRACK DESCRIPTION

The accelerated undergraduate/graduate program in Electrical Engineering allows highly qualified undergraduate majors in Electrical Engineering to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate degree program.

Students in the Electrical Engineering degree programs receive a broad background in areas such as communications, controls/robotics, digital signal processing, electromagnetics, power electronics and electronics, electro-optics/photonics, solid state and microelectronics while specializing in a research area of their interest.

Research interests of the Electrical Engineering faculty include antennas, microwave and millimeter circuits and devices, communication systems, digital signal/image processing, power electronics, electronic circuits, IFF devices, electromagnetic theory, radar and microwave remote sensing, speech processing, VLSI design, spread spectrum systems, SAW and ACT devices, spectral estimation, solid state device modeling and computer-aided design (CAD) techniques, communication networks, integrated services digital networks, neural networks, systems and controls, robotics, robust control, computer control, microelectronics, semiconductors, thin films, power system stability, bipolar device modeling, solid state lasers, optical propagation, fiber optics, optical signal processing, laser-induced damage, optical testing, diffractive optics, phase conjunction, infrared detectors, Fourier optics, lens design, and nonlinear optics.

CURRICULUM

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Up to 12 credit hours of approved 5000- and 6000-level courses of grades “B” (3.0) or better may be counted toward the BS and MS degrees.

Undergraduate Requirements

Application must be made no earlier than the semester after completing 60 credit hours toward the bachelor’s degree yet before completing 90 credit hours. A minimum GPA of 3.5 is required prior to admission.

Graduate Requirements

A complete application to the master's degree program must be received before admission deadlines of the semester in which the master's enrollment will commence. Students satisfy all requirements for master's admission in order to continue in the program once the bachelor's degree is awarded. At time of application for master's admission, students must specify BSMS-Accelerated as the master's degree track at time of graduate admission application to the MSEE program.

Equipment Fee

Students in the Electrical Engineering MSEE program pay a $63 equipment fee each semester that they are enrolled. Part-time students pay $31 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis or an approved portfolio of activities for nonthesis students.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general admission requirements, applicants must provide a bachelor’s degree in Electrical Engineering or a related discipline, an official, competitive GRE score taken within the last five years, a résumé, a statement of educational, research, and professional career objectives, and two letters of recommendation.

The **Accelerated BS to MS program** in Electrical Engineering allows highly qualified University of Central Florida undergraduate majors in Electrical Engineering to begin taking graduate level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to the **Electrical Engineering MS program** without a track selection. Additional information about this track may be located at: http://www.cecs.ucf.edu/current-students/bs-ms-program.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate admission requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Electrical Engineering or a related discipline.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting applicants into their research program.

Additional courses may also be required to correct any course deficiencies. Students should contact the graduate program director for further information.

Application Deadlines

Accelerated BS to MSEE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Kalpathy Sundaram PhD
Professor
Program Director
eecpe-grad@eecs.ucf.edu
407-823-5326
HEC 439B

Elementary Education MA

PROGRAM DESCRIPTION

The Master of Arts in Elementary Education (Grades K-6) ESOL Endorsement/Reading Endorsement program is a state-approved initial teacher certification program designed for individuals who have an undergraduate degree in a field other than Elementary Education (grades K-6) and who wish to become certified to teach in this field.

The Master of Arts in Elementary Education (Grades K-6) ESOL Endorsement/Reading Endorsement is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

The College of Education and Human Performance offers a Master of Arts in Elementary Education, a state-approved initial teacher certification program designed for individuals who have an undergraduate degree in a field other than Elementary Education (grades K-6) and who wish to become certified to teach in this field. This program is committed to preparing highly qualified Elementary Education teachers with knowledge and skills mated to research-based best practices. Additionally, graduates from this program will have state-approved ESOL Endorsement and Reading Endorsement upon graduation.

CURRICULUM

The Elementary Education MA requires a minimum of 48 credit hours beyond the bachelor’s degree. If the MA program will be providing a student’s initial certification, 80 clock hours of field experience must be completed before enrolling in the supervised internship.

Total Credit Hours Required:

48 Credit Hours Minimum beyond the Bachelor's Degree

The program requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the pre-professional level of performance for all of the Florida Educator Accomplished Practices. Multiple artifacts and reflective analyses are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of assessing the professional development of students as reflective practitioners. The program also requires an internship.

Students should plan to enroll in EDE 6933 during the first semester. Students should also plan to enroll in TSL 5085 early in the program to learn about infused English Speakers of Other Languages (ESOL) requirements including preparation of the TESOL notebook.

Co-requisite

Undergraduate courses are not counted in the 48 credit hours of graduate courses that are required for the degree.

- EEX 4070 Teaching Exceptional Students (3 credit hours)

Required Courses—48 Credit Hours

Core—18 Credit Hours

- EDE 6933 Introductory Seminar in Elementary Education (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)
- EDE 6935 Capstone Seminar in Elementary Education (2 credit hours) (Capstone Seminar should be taken in the final semester during Graduate Internship.)

Specialization—24 Credit Hours

Note: EDE 6933 is a prerequisite or co-requisite for the specialization courses below.

- LAE 5319 Methods of Elementary School Language Arts (3 credit hours)
- LAE 5415 Children's Literature in Elementary Education (3 credit hours)
- MAE 6318 Current Methods in Elementary School Mathematics (3 credit hours)
- SCE 6315 Methods in Elementary School Science (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (Prerequisite: RED 5147) (3 credit hours)
- RED 5948 Practicum in Reading Assessment and Instruction (Prerequisite: RED 5517) (3 credit hours)
- SSE 6115 Methods in Elementary School Social Science (3 credit hours)

Internship—6 Credit Hours

Satisfactory completion of graduate internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the pre-professional level in accordance with State Board of Education Rule 6A-5.065.

- EDE 6946 Graduate Internship (6 credit hours)

Students should ensure that they meet all requirements for Graduate Internship:

- Overall graduate GPA must be 3.0 or higher.
- Passing scores on the appropriate FTCE exams (GKT, Subject Area, and

Professional Area Exams) are required prior to admission to the graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at: http://www.education.ucf.edu/clinicalexp/.
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

Additional Program Requirements

- Complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in all Florida Educator Accomplished Practices.
- Complete a TESOL notebook (http://www.connect.rc.ucf.edu/notebook/) to address Florida ESOL competencies.
- Pass all applicable sections of the Florida Teacher Certification Examination.

NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a **new** Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).

INDEPENDENT LEARNING

A portfolio is required that demonstrates professional growth, reflection, and proficiency in all Florida Educator Accomplished Practices. An internship is also required that demonstrates proficiency in all Florida Educator Accomplished Practices.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide one official transcript (in a sealed envelope) from each college/university attended. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Passing score on all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT) **OR** a competitive score on the Graduate Record Exam (GRE). This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires demonstrating mastery of general knowledge.
- **UPDATE**: In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted on or after July 1, 2015, may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT SUBTEST	GRE SUBTEST	MINIMUM GRE SCORE REQUIRED TO SUBSTITUTE FOR GK SUBTEST
GK Writing Subtest (Essay)	GRE Analytical Writing	A combined score of 4 out of 6
GK English Language Subtest Skills	GRE Verbal Reasoning	A scaled score of 151
GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Elementary Education MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Robert Everett PhD
Associate Professor
Program Director
Robert.Everett@ucf.edu
407-823-5788
ED 122R

Elementary Education MEd

PROGRAM DESCRIPTION

The Master of Education in Elementary Education program is designed to meet the needs of the classroom teacher whose career goal is to remain in the classroom.

The Elementary Education program is designed to meet the needs of the classroom teacher whose career goal is to remain in the classroom. It provides experiences in the foundations of education, an update of the student's skills and understanding related to current research and instructional trends in basic subject matter areas, and elective choices in specific areas.

CURRICULUM

The MEd in Elementary Education requires a minimum of 30 credit hours beyond the bachelor's degree and offers a thesis and nonthesis option. Both options require 9 credit hours of core courses and a minimum of 12 credit hours of elective specialization courses, in addition to the 9 credit hours required in the thesis or nonthesis options. At minimum, 50 percent of the program coursework completed for the MEd must be at the 6000 level.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

The MEd program offers thesis and nonthesis options. The nonthesis option requires a research study in one or more courses. The research study and final report will focus on reviewing and analyzing contemporary research in a student's particular specialization within the education profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area.

Students should plan to take EDE 6933 Introductory Seminar in Elementary Education during the first semester of enrollment. Students should take EDE 6935, which includes a program culminating experience, during the final semester in the program.

Required Courses—9 Credit Hours

- EDE 6933 Introductory Seminar in Elementary Education* (1 credit hour)
- EDE 6935 Capstone Seminar in Elementary Education* (2 credit hours)
- EDF 6233 Introduction to Action Research and Analysis of Classroom Practice (3 credit hours)
- EME 5050 Fundamentals of Technology for Educators (3 credit hours) or EME 6405 Application Software for Educational Settings (3 credit hours)

Note: Courses with an asterisk (*) require an independent learning experience in the form of research studies.

Specialization—12 Credit Hours

Choose from one of the following specializations: General Elementary Education, Exceptional Education, Early Childhood Education, Gifted Education, or K-8 Mathematics and Science. Choose at least 12 credit hours from the following specialization courses with the approval of your adviser. The adviser may approve courses taken as part of a UCF graduate certificate program for this area of the MEd (up to 12 credit hours).

General Elementary Education Specialization

- ISC 6146 Environmental Education for Educators (3 credit hours)
- LAE 5295 Writing Workshop (1-3 credit hours)
- LAE 5319 Methods in Elementary School Language Arts (3 credit hours). (Use this course if no previous language arts methods course has been taken.)
- LAE 5415 Children's Literature in Elementary Education (3 credit hours). (Use this course only if no previous children's literature course has been taken.)
- LAE 5495 Assessing Writing (3 credit hours)
- LAE 6296 Advanced Writing Workshop (3 credit hours)
- LAE 6417 Investigation in Children's Literature (3 credit hours)
- LAE 6616 Trends in Language Arts Education (3 credit hours)
- LAE 6936 Seminar in Language Arts Education (3 credit hours)

- MAE 6318 Current Methods in Elementary School Mathematics (3 credit hours). (Use this course if no previous mathematics methods course has been taken.)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- MAE 6641 Problem Solving and Critical Thinking Skills (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours). (Use this course if no previous reading diagnosis course has been taken.)
- RED 6116 Advanced Study in Foundations of Reading (3 credit hours)
- SCE 5836 Space and Physical Science for Educators (3 credit hours)
- SSE 6617 Trends in Elementary School Social Studies Education (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)
- TSL 6142 Critical Approaches to ESOL (3 credit hours)
- TSL 6440 Assessment Issues in TESOL (3 credit hours)

Exceptional Education Specialization

- EEX 5051 Exceptional Children in the Schools (3 credit hours)
- EEX 6061 Instructional Strategies Pre-K-6 (3 credit hours)
- EEX 6065 Programming for Students with Disabilities at the Secondary Level (3 credit hours)
- EEX 6107 Teaching Spoken and Written Language (3 credit hours)
- EEX 6295 Assessment and Curriculum Prescriptions for the Exceptional Population (3 credit hours)
- EEX 6612 Methods of Behavioral Management (3 credit hours)

Early Childhood Education Specialization

- EEC 5205 Programs and Trends in Early Childhood Education (3 credit hours)
- EEC 6216 Communicative Arts in Early Childhood Education (3 credit hours)
- EEC 6269 Play Development, Intervention, and Assessment (3 credit hours)
- EEC 6405 Home-School-Community Interaction in Early Childhood Education (3 credit hours)
- EEC 6406 Guiding and Facilitating Social Competence (3 credit hours)
- EEC 6606 Global Issues in Early Childhood (3 credit hours)

Gifted Education Specialization

- EGI 6051 Understanding the Gifted/Talented Student (3 credit hours)
- EGI 6245 Program Planning and Methodology for Gifted/Talented Students (3 credit hours)
- EGI 6246 Education of Special Populations of Gifted Students (3 credit hours)
- EGI 6305 Theory and Development of Creativity (3 credit hours)
- EGI 6417 Guidance and Counseling Strategies for Teachers of Gifted and Talented Individuals (3 credit hours)

Mathematics and/or Science Specialization

- IDS 6937 Teaching Mathematics and Science Using Reform-Based Practices (3 credit hours)
- MAE 6318 Current Methods in Elementary School Mathematics (3 credit hours)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- MAE 6641 Problem Solving and Critical Thinking Skills (3 credit hours)
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)
- SCE 5836 Space and Physical Science for Educators (3 credit hours)

Thesis Option—9 Credit Hours

Either LAE 6792 or EDF 6481 must be taken in addition to completing a thesis.

- EDE 6971 Thesis (6 credit hours)
- LAE 6792 Teacher Researcher (3 credit hours) OR
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Nonthesis Option—9 Credit Hours

A culminating experience is required in this option.

- Electives (9 credit hours) selected with the permission of the adviser

INDEPENDENT LEARNING

The program requires a research study in both the EDE 6933 and EDE 6935 courses. The research study and final report will focus on reviewing and analyzing contemporary research in a student's particular specialization within the education profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide a current Florida Professional Teaching Certificate in Elementary Education or have completed the requirements for that Professional Teaching Certificate. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A current Florida Professional Teaching Certificate in the program's subject area or have completed all requirements for that Professional Teaching Certificate. Applicants who have graduated from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the MEd program at the discretion of the program director.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Elementary Education MEd	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Robert Everett PhD
Associate Professor
Program Director
Robert.Everett@ucf.edu
407-823-5788
ED 122R

Engineering Management MSEM

- Professional Engineering Management (PEM), Professional Science Master's

PROGRAM DESCRIPTION

The Master of Science in Engineering Management (MSEM) degree in Industrial Engineering focuses on effective decision-making in engineering and technological organizations.

The MSEM degree is offered on campus and can be taken entirely through the Florida Engineering Educational Delivery System (FEEDS), which provides video-streamed versions of classes over the internet.

The Professional Engineering Management (PEM) track is designated as a Professional Science Master's (PSM) degree.

CURRICULUM

This program can be taken entirely through the Florida Engineering Educational Delivery System (FEEDS), which provides video-streamed versions of classes over the Internet.

The Engineering Management MSEM degree requires an undergraduate degree in Engineering or a closely related discipline. Students with undergraduate degrees outside of industrial engineering may be required to take additional prerequisites. An approved program of study must be developed in consultation with the graduate program director. The total number of hours is 30 credit hours.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

Mathematics through Calculus II (MAP 2312)

Required Courses—12 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- ESI 6551 Systems Architecting (3 credit hours)
- EIN 6357 Advanced Engineering Economics Analysis (3 credit hours)

Concentration Courses (9 Credit Hours)

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 6370 Innovation in Engineering Design (3 credit hours)
- EIN 6182 Engineering Management (3 credit hours)

Thesis Option—9 Credit Hours

Thesis students must complete an indepedent research project and then write and successfully defend their thesis. Furthermore, an additional 3 credit hours of electives are required beyond the 21 credit hours of required courses described above.

- EIN 6971 Thesis (6 credit hours)
- Elective (3 credit hours)

Nonthesis Option—9 Credit Hours

Nonthesis students must take 9 additional credit hours of electives beyond the 21 credit hours of required courses described above.

Comprehensive Examination

Nonthesis students must successfully pass an oral comprehensive examination to fulfill degree requirements. The comprehensive examination for MSEM graduates is satisfied by successful completion of a capstone project and oral presentation as a requirement for passing EIN 6182 Engineering Management. Please see the program director for further details.

At least one-half of the credit hours of all courses in a master's program of study must be at the 6000 level or higher. Students on assistantships must take 9 credit hours per semester to satisfy the university's requirement for full-time status. Most students working full time take 6 credit hours per semester. At that rate, the program can be completed in 6 semesters or less. However, students with more time available can finish the program in 3 semesters.

Equipment Fee

Students in the Engineering Management MSEM program pay a $90 equipment fee each semester that they are enrolled. For part-time students, the equipment fee is $45 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of the research studies required in individual courses, EIN 6182 Engineering Management, and the capstone project that requires that students integrate material from all the courses in their program.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide a bachelor's degree in Engineering or a related discipline, a résumé, a statement of educational, research, and professional career objectives, and two letters of recommendation.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee. ssions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway. Students with undergraduate degrees outside of industrial engineering may be required to take additional prerequisites.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vita
- Goal statement
    - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Master's degree in Industrial Engineering. Future educational and career goals after the completion of the applicant's master study should be discussed.

    - If the applicant is interested in completing a Master thesis, then the applicant must clearly describe the particular area of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential thesis advisor.
    - The goal statement should between 500 and 1,000 words.
- Two letters of recommendation
    - The letters of recommendation should be from faculty members, university administrators and employers with a supervisory role of the applicant. The letters, which must be current to the application and must not be for another degree program, should address the educational and career goals of applicant. The letter writers should also know the applicant well enough to discuss the applicant's capacity to perform, excel and succeed in a graduate program. Letters for Master's thesis students must discuss the applicant's ability to perform graduate-level research.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Engineering Management MSEM	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Ahmad Elshennawy PhD
Professor
Program Director
ahmade@ucf.edu
407-823-2204
Engineering 2, Room 312

Engineering Management MSEM

Professional Engineering Management (PEM), Professional Science Master's

TRACK DESCRIPTION

The Professional Engineering Management (PEM) track is a cohort-based program where specific cohorts are established periodically based on needs of industry. The program is designed to be a lock-step, cohort-based program that can be completed in approximately 18 to 20 months.

For information about the start of the next cohort, please contact the PEMP Program Director Dr. Kotnour (timothy.kotnour@ucf.edu).

CURRICULUM

The Professional Engineering Management (PEM) track in the Engineering Management MSEM program focuses on effective decision-making and successful project delivery in engineering and technological organizations. The program is tailored to the needs of the experienced, working professional.

The Engineering Management MSEM program requires an undergraduate degree in Engineering or a closely related discipline. Students with undergraduate degrees outside of industrial engineering may be required to take additional prerequisite courses.

Research studies are required in one or more courses. The research study and report will focus on reviewing and analyzing contemporary research in the profession in order to help students acquire knowledge and skills pertaining to research-based best practices.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

- Mathematics through Calculus II (MAC 2312)

Master Core Courses—12 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- ESI 6551 Systems Architecting (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)

Concentration Courses—9 Credit Hours

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 6370 Innovation in Engineering Design (3 credit hours)
- EIN 6182 Engineering Management (3 credit hours)

Elective Courses—9 Credit Hours

Students take an additional 9 credit hours of electives.

Comprehensive Examination

Students must successfully pass an oral comprehensive examination to fulfill degree requirements. Please see the program director for further details.

Equipment Fee

Students in the Engineering Management MSEM program pay a $90 equipment fee each semester that they are enrolled. For part-time students, the equipment fee is $45 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of the research studies required in individual courses, EIN 6182 Engineering Management, and the capstone project, which requires that students integrate material from all the courses in their program.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide a bachelor’s degree in Engineering or a related discipline, a résumé, a statement of educational, research, and professional career objectives, and two letters of recommendation.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor’s degree in Engineering or a closely related discipline.
- A letter of recommendation from the corporate sponsor.

- Résumé.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Professional Engineering Management (PEM), Professional Science Master's	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Ahmad Elshennawy PhD
Professor
Program Director
ahmade@ucf.edu
407-823-2204
Engineering 2, Room 312

English MA, Rhetoric and Composition

PROGRAM DESCRIPTION

The Rhetoric and Composition Master of Arts track prepares students for teaching college-level writing, for continuing to a PhD program in rhetoric and composition, and for working in public and professional situations that call for effective persuasion and communication.

The Rhetoric and Composition Master of Arts track prepares students to engage in technologically adept, theory-based writing research and pedagogy. The program emphasizes the study of rhetorical, writing, and literacy traditions and theories, particularly as they relate to the teaching of writing. This degree is ideal preparation for teaching college-level writing, for continuing to a PhD program in rhetoric and composition, and for working in public and professional situations that call for effective persuasion and communication.

Upon completion of this program, students receive a Master of Arts in English diploma and their transcript shows both Master of Arts in English and Rhetoric and Composition track.

English MA

- Literary, Cultural, and Textual Studies
- Technical Communication

PROGRAM DESCRIPTION

The Master of Arts in English program offers two tracks: Literary, Cultural, and Textual Studies, and Technical Communication. The program is designed for students interested in intellectual and practical questions of aesthetics, critique, culture, text, and interpretation.

The program is designed for students interested in intellectual and practical questions of aesthetics, critique, culture, text, and interpretation.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may
have different requirements. Applicants must choose a track in this program. Track(s) may
have different requirements.

CONTACT INFO

James Campbell PhD
Associate Professor
Program Director
james.campbell@ucf.edu
407-823-5329
Colbourn Hall 302E

English MA

Literary, Cultural, and Textual Studies

TRACK DESCRIPTION

The Literary, Cultural, and Textual Studies track in the Master of Arts in English program prepares students for both academic and nonacademic careers.

The program encourages student to make connections among texts (critical, theoretical, scholarly, literary, etc.), to engage in research and critical thinking at an advanced level, and to write scholarship of merit and distinction.

CURRICULUM

Each student must complete at least 33 credit hours, including three core courses, one of which is in linguistics. Near the end of the degree program, each candidate will complete a Capstone Course and choose either the thesis option or the nonthesis option, which requires 3 additional credit hours of a 6000-level Literary, Cultural, and Textual Studies course.

The program teaches research methods in one or more courses and requires a research study and final report focusing on literary criticism in a student's particular specialization.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

Core—6 Credit Hours

- ENG 5009 Methods of Bibliography and Research (3 credit hours)
- ENG 6078 Contemporary Movements in Literary, Cultural, and Textual Theory (3 credit hours)

Capstone—3 Credit Hours

- ENG 6950 Capstone Course (3 credit hours)

Students must take a Capstone Course after completing at least 18 credit hours in the program. The Capstone Course is a systematic and comprehensive revision of previous graduate research, with special attention to the use of theory and to professionalization and with the goal of publication and/or conference presentation.

Foreign Language Proficiency

Students must also prove proficiency in a foreign language at the first-year level prior to completing the degree program.

Elective Courses—21 Credit Hours

Restricted—15 Credit Hours

Students must choose four of the following courses.

- ENG 6074 Historical Movements in Literary, Cultural, and Textual Studies (3 credit hours)
- LIT 6216 Issues in Literary Study (can be taken four times for credit when course content is different) (3 credit hours)
- LIT 6936 Studies in Literary, Cultural, and Textual Theory (can be taken four times for credit when course content is different) (3 credit hours)
- LIT 6276 Teaching College Literature (3 credit hours)
- LIN 5137 Linguistics (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)

Unrestricted—6 Credit Hours

In consultation with the graduate adviser, students will choose three graduate-level English courses.

Thesis Option—3 Credit Hours

Students will complete a formal thesis on a topic selected in consultation with an advisory committee and will meet both departmental and university requirements for the thesis.

- LIT 6971 Thesis (3 credit hours)

Nonthesis Option—3 Credit Hours

Students will complete 3 additional hours of 6000-level Literary, Cultural, and Textual Studies courses.

- Elective (3 credit hours)

INDEPENDENT LEARNING

All courses in the Master's in English, Literary, Cultural, and Textual Studies Track require students to complete substantial independent research projects and, thus provide students the opportunity to engage in independent learning.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a bachelor's degree in English, two letters of recommendation, a goal statement, and a writing sample with an explanatory memo. Applicants must complete one year of a foreign language at the university level is required (which may be taken while in graduate residence); applicants from countries where English is not the official language of applicants from non-U.S. accredited institutions must achieve a minimum score of 233 on the TOEFL.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in English or its equivalent.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation from faculty members or others familiar with applicant's academic potential.
- One year of a foreign language at the university level (may be taken while in graduate residence).
- A one to two page goal statement addressing the applicant's reasons for pursuing graduate study in English.
- A researched literary analysis or equivalent essay of approximately ten pages, with an explanatory cover memo of no more than one page that explains why you chose to submit this particular academic essay and how you would revise if if you had the opportunity. All statements and essays should be revised writing (i.e., no written under timed conditions). Writing should be "cleaned": typed, error-free, with no teacher comments. The essay should demonstrate an ability to follow a scholarly format such as MLA or APA.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

A résumé is required for applicants seeking assistantship positions.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Literary, Cultural, and Textual Studies	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 30	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

James Campbell PhD
Associate Professor
Program Director
james.campbell@ucf.edu
407-823-5329
Colbourn Hall 302E

English MA

Technical Communication

TRACK DESCRIPTION

The Technical Communication track in the Master of Arts in English program is completely online and provides students with theoretical and applied skills in such areas as technical writing, visual design, usability, ethics, stylistics, computer documentation, international communication, and the rhetoric of science.

Students in this program come from a variety of educational backgrounds such as Psychology, Computer Science, and English. The program's faculty members have won prestigious awards, are well published in the field, and have considerable experience in teaching online courses.

Our graduates hold a variety of jobs in the central Florida region; they have found work as technical writers, technical editors, information designers, web designers, corporate trainers, consultants, information developers, educators, documentation specialists, or have other communication related jobs.

CURRICULUM

Each student must complete at least 33 credit hours of coursework including 15 credit hours of required courses and 15 credit hours of elective courses. Near the end of the degree program, each candidate will write a comprehensive examination and complete a thesis option, a nonthesis option with a research project approved by the faculty, or a nonthesis option consisting of an additional 6000-level three-credit-hour Technical Communication course taught by the Department of English.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

- ENC 6297 Production and Publication Methods (3 credit hours)
- ENC 5337 Rhetorical Theory (3 credit hours)
- ENC 6217 Technical Editing (3 credit hours)
- ENC 6261 Technical Writing: Theory and Practice (3 credit hours)
- ENG 5009 Methods of Bibliography and Research (3 credit hours)

Elective Courses—15 Credit Hours

Restricted—9 Credit Hours

- ENC 6257 Visual Technical Communication (3 credit hours)
- ENC 6306 Persuasive Writing (3 credit hours)
- ENC 6247 Proposal Writing (3 credit hours)
- ENC 6292 Project Management for Technical Writers (3 credit hours)
- ENC 6296 Writing and Designing Online Help Systems (3 credit hours)
- ENC 6338 The Rhetorics of Public Debate (3 credit hours)
- ENC 6425 Hypertext Theory and Design (3 credit hours)
- ENC 6335 Rhetorical Traditions (3 credit hours)
- LIN 5675 English Grammar and Usage (3 credit hours)
- LIT 6435 Rhetoric of Science (3 credit hours)

Unrestricted—6 Credit Hours

Students in consultation with the graduate adviser will choose two graduate-level English courses or approved courses from outside the department.

Thesis Option—3 Credit Hours

Students complete a formal thesis written in consultation with an advisory committee and will meet both departmental and university requirements for the thesis.

- ENC 6971 Thesis (3 credit hours)

Nonthesis Options—3 Credit Hours

Students will enroll in directed research and complete a research project approved by an advisory committee. This project will be on a topic in technical communication and in a format other than that of a traditional thesis.

- ENC 6918 Directed Research (3 credit hours)

Or, students will enroll in an additional 6000-level course in technical communication taught by the Department of English.

Comprehensive Examination

The comprehensive examination is a written exam based on four of the core courses (excluding ENG 5009).

INDEPENDENT LEARNING

Both the thesis and special project options of the Master’s in English, Technical Communication Track require students to conduct original research and to produce a final paper detailing the subject, purpose, scope, methodology, and conclusions of the study, thus, providing students the opportunity to engage in independent learning.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, two letters of recommendation, a goal statement, and a writing sample with an explanatory memo. One year of foreign language at the university level is required (may be taken while in graduate residence). Applicants from countries where English is not the official language or with degrees from a non-U.S. accredited institution must achieve a minimum score of 233 on the TOEFL.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation from faculty members or others familiar with applicant's academic potential.
- One year of a foreign language at the university level (may be taken while in graduate residence).
- A one to two page goal statement addressing the applicant's reasons for pursuing graduate study in English.
- A professional writing sample of approximately ten pages (or an equivalent amount of web-based work), with a cover memo of no more than one page that explains why you chose to submit this particular sample.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- A résumé is required for applicants seeking assistantship positions.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Technical Communication	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 30	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

James Campbell PhD
Associate Professor
Program Director
james.campbell@ucf.edu
407-823-5329
Colbourn Hall 302E

Environmental Engineering MS

- Environmental Engineering Sciences

PROGRAM DESCRIPTION

The Master of Science in Environmental Engineering program is for students with science, math, or a similar background, and usually requires a number of undergraduate engineering courses as articulation to become fully prepared for graduate work in environmental engineering.

Applicants to the program are expected to be knowledgeable in topics including chemistry, process design, water resources, and air pollution. The program focuses on pollution control, pollution prevention, and the correction of pollution effects on natural and man-made environments.

The program is noted for its strong faculty research interests, and areas of study include drinking water treatment, wastewater treatment, solid and hazardous waste management, atmospheric pollution control and modeling, community noise abatement, and stormwater management. The program's overall mission is to prepare students for careers in environmental engineering with consulting firms; with industry; within federal, state, and local governments; and/or in higher education.

The program’s overall mission is to prepare students for Environmental Engineering careers in federal, state, and local governments; higher education; consulting; and industry.

Other key objectives include:

- Producing graduates who have technical knowledge in critical areas of environmental engineering
- Providing a professional engineering education that challenges our graduates to think critically
- Forming and maintaining partnerships with industry, government agencies, and professional organizations
- Developing awareness of the changing environmental needs of society and the global environment.

CURRICULUM

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a résumé and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

Those applying to the programs without a directly related undergraduate degree should closely check the prerequisites. For students with nontechnical undergraduate degrees, it is recommended that a second undergraduate degree in Environmental Engineering be completed before applying to graduate school.

Final articulation requirements will be determined by the department after students have been admitted and after discussions with their advisers.

CONTACT INFO

Omer Tatari PhD, LEED, AP
Associate Professor
Program Director
tatari@ucf.edu
407-823-6558
Engineering II, 301-K

Environmental Engineering MS

Environmental Engineering Sciences

TRACK DESCRIPTION

The Environmental Engineering Sciences track in the Environmental Engineering MS program is for students with science, math, or a similar background, and usually requires a number of undergraduate engineering courses as articulation to become fully prepared for graduate work in environmental engineering.

Applicants to the program are expected to be knowledgeable in topics including chemistry, process design, water resources, and air pollution. The program focuses on pollution control, pollution prevention, and the correction of pollution effects on natural and man-made environments.

The program is noted for its strong faculty research interests, and areas of study include drinking water treatment, wastewater treatment, solid and hazardous waste management, atmospheric pollution control and modeling, environmental water resources, and stormwater management. The program's overall mission is to prepare students for careers in environmental engineering with consulting firms; with industry; within federal, state, and local governments; and/or in higher education.

The program’s overall mission is to prepare students for Environmental Engineering careers in federal, state, and local governments; higher education; consulting; and industry.

Other key objectives include:

- Producing graduates who have technical knowledge in critical areas of environmental engineering
- Providing a professional engineering education that challenges our graduates to think critically
- Forming and maintaining partnerships with industry, government agencies, and professional organizations
- Developing awareness of the changing environmental needs of society and the global environment.

CURRICULUM

The Environmental Engineering Sciences track offers both thesis and nonthesis options with each requiring 30 credit hours of courses beyond the baccalaureate degree. Students choosing the thesis option must take 12 credit hours of required courses, 12 credit hours of electives, and 6 thesis credit hours. Students choosing the nonthesis option must take 12 credit hours of required courses, 18 credit hours of electives, and submit an end-of-program portfolio. Students develop an individualized program of study with a faculty adviser.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

At least 24 credit hours of the course work must be exclusive of thesis and research, and Directed Research (XXX 6918) is not permitted in MS program of study.

The thesis option is primarily for students who can devote a full-time effort to their research and is required for all students supported on contracts and grants, as well as any student receiving department financial support. The nonthesis option is strongly recommended for part-time students and requires an end-of-program portfolio as a requirement for graduation.

Research studies or projects are required in one or more courses. The research study or project will focus on reviewing and analyzing contemporary research or engineering issues in a student's particular specialization within the profession. They are intended to help students acquire knowledge and skills pertaining to best practices in that specialization area.

Prerequisites (Articulation)

The completion of prerequisite courses may be required before students can begin the program graduate course work.

The following mathematics prerequisite requirement is for all students.

- Calculus through Differential Equations

The following prerequisites (or equivalent courses) may be required for students with appropriate science or math undergraduate degrees.

- ENV 3001 Introduction to Environmental Engineering (3 credit hours)
- CWR 3201 Engineering Fluid Mechanics (3 credit hours)
- CWR 4632 Water Resources I (4 credit hours)
- CWR 4633 Water Resources II (3 credit hours)
- EES 4111C Biological Process Control (3 credit hours)
- EES 4202C Chemical Process Control (3 credit hours)
- EGN 3613 Engineering Economic Analysis (2 credit hours)
- ENV 4120 Air Pollution Control (3 credit hours)
- ENV 4531 Environmental Engineering Operations and Processes I (3 credit hours)

Required Courses—12 Credit Hours

Students must choose one course from each group.

Chemical/ Biological/ Industrial Waste Treatment

- ENV 6015 Physical/Chemical Treatment Systems in Environmental Engineering (3 credit hours)
- ENV 6016 Biological Treatment Systems in Environmental Engineering (3 credit hours)
- ENV 6558 Industrial Waste Treatment (3 credit hours)

Air Quality

- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling* (3 credit hours)
- ENV 6126 Design of Air Pollution Controls* (3 credit hours)
- ENV 6347 Hazardous Waste Incineration (3 credit hours)

Environmental/ Water Quality

- ENV 6519 Aquatic Chemical Processes (3 credit hours)
- ENV 6616 Receiving Water Impacts (3 credit hours)
- ENV 5410 Water Treatment (3 credit hours)
- EES 5318 Industrial Ecology (3 credit hours)

Civil Water Resources

- Any CWR course at the 5000 or 6000 level (3 credit hours). See course listings in the drop-down catalog menu above.

Note: Courses with an asterisk (*) provide independent learning experiences. Nonthesis students are required to take at least one course with an asterisk.

Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of elective courses. The electives should be chosen from courses with ENV or CWR prefixes although other appropriate graduate-level courses (5000 or 6000) may be allowed. All electives must be chosen with the consent of the student's adviser.

- Electives (12 credit hours)

Thesis Option—6 Credit Hours

The thesis option requires that students conduct an approved research study, write and successfully defend a thesis.

- XXX 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

The nonthesis option requires 6 more credit hours of electives in addition to the 12 credit hours of electives described above.

- Electives (6 credit hours)

Portfolio Requirement

Students are required to complete a culminating experience. The culminating experience for nonthesis MS students is submission of an end-of-program portfolio. The portfolio requirements are listed on the CECE website.

Equipment Fee

Students in the Environmental Engineering MS program pay a $16 equipment fee each semester that they are enrolled. Part-time students pay $8 per semester.

INDEPENDENT LEARNING

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at least one of the courses marked with an asterisk (*), denoting an independent learning experience, and an end-of-program portfolio.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a résumé and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their graduate program.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

Those applying to the programs without a directly related undergraduate degree should closely check the prerequisites. For students with nontechnical undergraduate degrees, it is recommended that a second undergraduate degree in Environmental Engineering be completed before applying to graduate school.

Final articulation requirements will be determined by the department after students have been admitted and after discussions with their advisers.

Application Deadlines

Environmental Engineering Sciences	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Omer Tatari PhD, LEED, AP
Associate Professor
Program Director
tatari@ucf.edu
407-823-6558
Engineering II, 301-K

Environmental Engineering MSEnvE

PROGRAM DESCRIPTION

The Master of Science in Environmental Engineering program was created for students who have an undergraduate degree in environmental engineering or any other closely related degree in engineering. Applicants are expected to be knowledgeable in topics including chemistry, process design, water resources, and air pollution. The program focuses on pollution control, pollution prevention, and the correction of pollution effects on natural and man-made environments.

The program is noted for its strong faculty research interests, and areas of study include drinking water treatment, wastewater treatment, solid and hazardous waste management, atmospheric pollution control and modeling, environmental water resources, and stormwater management. The program's overall mission is to prepare students for careers in environmental engineering with consulting firms; with industry; within federal, state, and local governments; and/or in higher education.

The program’s overall mission is to prepare students for Environmental Engineering careers in federal, state, and local governments; higher education; consulting; and industry. Other key objectives include:

- Producing graduates who have technical knowledge in critical areas of environmental engineering
- Providing a professional engineering education that challenges our graduates to think critically
- Forming and maintaining partnerships with industry, government agencies, and professional organizations
- Developing awareness of the changing environmental needs of society and the global environment.

CURRICULUM

The Environmental Engineering MSEnvE program offers both thesis and nonthesis options with each requiring 30 credit hours of courses beyond the bachelor’s degree. Prerequisites are required depending upon the discipline of a student’s bachelor’s degree. The thesis option is primarily for those who can devote a full-time effort to their research project and is required for all students supported on contracts and grants, as well as any student receiving department financial support. The nonthesis option is recommended strongly for part-time students and requires submission of an end-of-program portfolio as a requirement for graduation.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Students choosing the thesis option must take 15 credit hours of required courses, 9 credit hours of electives, and 6 thesis credit hours. Students choosing the nonthesis option must take 15 credit hours of required courses, 15 credit hours of electives, and submit a portfolio pass a comprehensive final examination before graduating.

Students develop an individualized program of study with a faculty adviser. At least 24 credit hours in the program of study must be earned exclusive of thesis and research courses and Directed Research (XXX 6918) is not permitted in MSEnvE program of study.

Research studies or projects are required in one or more courses. The research study or project will focus on reviewing and analyzing contemporary research or engineering issues in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to best practices in that specialization area.

Prerequisites (Articulation)

The completion of prerequisite courses may be required before students can begin program course work. Please contact the program director to review your background and determine the prerequisites that you may need to take.

The following mathematics prerequisite requirement is for all students.

- Calculus through Differential Equations

The following prerequisites may be required for students with undergraduate degrees in Civil, Mechanical, or Chemical Engineering. Equivalent courses may be acceptable.

- ENV 3001 Introduction to Environmental Engineering (3 credit hours)
- CWR 4632 Water Resources I (4 credit hours)
- ENV 4120 Air Pollution Control (3 credit hours)
- ENV 4531 Environmental Engineering Operations and Processes I (3 credit hours)

The following prerequisites may be required for students with undergraduate degrees in other Engineering disciplines.

- ENV 3001 Introduction to Environmental Engineering (3 credit hours)
- CWR 4632 Water Resources I (4 credit hours)
- CWR 4633 Water Resources II (3 credit hours)
- EES 4111C Biological Process Control (3 credit hours)
- EES 4202C Chemical Process Control (3 credit hours)
- ENV 4120 Air Pollution Control (3 credit hours)
- ENV 4531 Environmental Engineering and Processes I (3 credit hours)

Required Courses—15 Credit Hours

All students are required to take the following two courses and then choose one course from each of the three groupings below.

- ENV 6015 Physical/Chemical Treatment Systems in Environmental Engineering (3 credit hours)
- ENV 6016 Biological Treatment Systems in Environmental Engineering* (3 credit hours)

Waste Treatment/ Water Treatment/ Industrial Waste Treatment

- ENV 6347 Hazardous Waste Incineration (3 credit hours)
- ENV 6558 Industrial Waste Treatment (3 credit hours)
- ENV 5410 Water Treatment (3 credit hours)
- EES 5318 Industrial Ecology (3 credit hours)

Air Quality

- ENV 6106 Theory and Practice of Atmospheric Dispersion Modeling (3 credit hours)
- ENV 6126 Design of Air Pollution Controls* (3 credit hours)

Water Resources

- Any CWR course at the 5000 or 6000 level (3 credit hours)

Note: Courses with an asterisk (*) provide an independent learning experience for students, consisting of a research or design project. Nonthesis students are required to take at least one of the courses with an asterisk.

Elective Courses—9 Credit Hours

All students, both thesis and nonthesis, are required to take 9 credit hours of elective courses. Courses that comprise the elective part of the program are selected in accordance with the general requirements of the College of Engineering and Computer Science and often include courses taken from the following two sub-discipline areas:

- Environmental Specialization—Any of the appropriate ENV graduate-level courses (5000 or 6000) with the consent of the student's adviser
- Water Resources Specialization—Any of the appropriate CWR graduate-level courses (5000 or 6000) with the consent of the student's adviser

Thesis Option—6 Credit Hours

Thesis students are expected to complete an independent research project and then write and successfully defend their thesis.

- XXX 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the Events Calendar and on the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

Nonthesis students must take 6 more credit hours of electives in addition to the 9 credit hours of electives described above.

- Electives (6 credit hours)

Portfolio Requirement

Students are required to complete a culminating experience. The culminating experience for nonthesis MS students is submission of an end-of-program portfolio. The portfolio requirements are listed on the CECE website.

Equipment Fee

Students in the Environmental Engineering MSEnvE program pay a $16 equipment fee each semester that they are enrolled. Part-time students pay $8 per semester.

INDEPENDENT LEARNING

A research or design project serves as the independent learning experience for thesis students. Nonthesis students are required to take at least one of the courses marked with an asterisk (*), denoting an independent learning experience, and submit an end-of-program portfolio.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to the general application requirements, applicants must provide a résumé and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting applicants into their research programs.

The GRE is not required, however, taking the GRE is highly recommended for students wishing to pursue a thesis. In order to be considered for any fellowships, a GRE score is required.

Those applying to the programs without a directly related undergraduate degree should closely check the prerequisites. Students with nontechnical undergraduate degrees are recommended to complete a second undergraduate degree in Environmental Engineering before applying to graduate school.

Final articulation requirements will be determined by the department after students have been admitted and after discussions with their advisers.

Application Deadlines

Environmental Engineering MSEnvE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Omer Tatari PhD, LEED, AP
Associate Professor
Program Director
tatari@ucf.edu
407-823-6558
Engineering II, 301-K

Exceptional Student Education K-12 MA

PROGRAM DESCRIPTION

The Master of Arts in Exceptional Student Education K-12 program is for non-education majors or previously certified teachers in another content area.

The Master of Arts in Exceptional Student Education K-12 program is for non-education majors or previously certified teachers in another content area. Graduates must be eligible for certification by the successful completion of the degree program in the area of exceptional student education (ESE) and must pass the Florida certification exams. Graduates will also receive Reading and ESOL endorsements upon successful completion of the program, if not currently endorsed. For additional information, contact esegrad@ucf.edu.

This is a state-approved, initial teacher preparation program designed in compliance with Florida Statutes and State Board of Education Rule 6A-5.066. Degree requirements are subject to change based on state mandates. Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

Passing scores on ALL three applicable sections of the Florida Teacher Certification Examination (FTCE) are required prior to graduation. See www.fldoe.org for available test dates and test sites. The exams include:

• FTCE General Knowledge Test (GKT) (If CLAST or GRE was used for admission.)
• FTCE Professional Education Test (P.Ed.)
• FTCE Subject Area Exam for Exceptional Student Education K-12

CURRICULUM

The Master of Arts (MA) in Exceptional Student Education K-12 program requires a minimum of 39 credit hours beyond the bachelor's degree including 9 credit hours of required core courses, 21 credit hours of specialization courses, and 9 credit hours of Internship and Reading Practicum. Individual learning projects, including research skills and action research, are embedded in the specialization courses and completed in authentic settings. In addition, a culminating Comprehensive Exam will be completed to demonstrate mastery of research, knowledge, skills and dispositions of standards from accrediting educational agencies. Students entering the MA program without prior related courses and/or appropriate teacher certifications may need to complete courses in the MA Foundation Core/Co-requisite area as prescribed by Florida State Statutes for initial teacher preparation (ITP).

Total Credit Hours Required:

39 Credit Hours Minimum beyond the Bachelor's Degree

Foundation Core/Co-requisites

These foundation core/co-requisite courses are prescribed by Florida State Statutes for initial teacher preparation (ITP). Students entering the Exceptional Student Education MA program without prior related courses and/or appropriate teacher certifications may need to complete courses in the Foundation Core/Co-requisite area.

If a student has successfully completed equivalent courses in the Foundation Core/Co-requisite area, as prescribed by Florida State Statutes for initial teacher preparation, then course waivers can be requested (see adviser).

- EEX 5051 Exceptional Children in the Schools (3 credit hours). Students are strongly advised to enroll in EEX 5051 early in their graduate program.
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours). Please note that RED 5517 is currently not available online.

Required Courses—30 Credit Hours

Core—9 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)

TSL 5085 and TSL 6250 are required courses leading to ESOL endorsement. Students should see an adviser if they hold a current ESOL endorsement.

Specialization—21 Credit Hours

- EEX 6061 Instructional Strategies PreK-6 (3 credit hours)
- EEX 6065 Programming for Students with Disabilities at the Secondary Level (3 credit hours)
- EEX 6107 Teaching Spoken and Written Language (3 credit hours)
- EEX 6295 Assessment and Curriculum Prescriptions for the Exceptional Population (3 credit hours)
- EEX 6524 Organization and Collaboration in Special Ed (3 credit hours)
- EEX 6612 Methods of Behavioral Management (3 credit hours)
- EEX 6342 Seminar: Critical Issues in Special Education (3 credit hours)

Internship and Practicum—9 Credit Hours

- EEX 6946 Graduate Internship: ESE (6 credit hours)
- RED 5948 Practicum in Reading Assessment and Instruction (3 credit hours)

Additional Graduation Requirements

- Pass all applicable sections of the Florida Teacher Certification Examination. See http://www.fl.nesinc.com/ or www.fldoe.org for additional information about test dates and resources.
- Pass Comprehensive Exam.
- Complete a LiveText Professional Portfolio.
- Complete a TESOL Portfolio.
- Compliance with all university and graduate student policies.

NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a **new** Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).

INDEPENDENT LEARNING

The Exceptional Student Education K-12 MA program requires the completion of an Action Research Project, Internship, and Reading Practicum. These independent learning activities take place in authentic settings where students must apply, reflect upon and refine their knowledge, skills and dispositions acquired in the program.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide one official transcript (in a sealed envelope) from each college/university attended and a copy of current ESOL endorsement, IF applicable. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A copy of current ESOL endorsement, IF applicable.
- A copy of current Reading Endorsement, IF applicable.
- A copy of current professional teaching certificate, IF applicable.
- Passing score on all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT) **OR** a competitive score on the Graduate Record Exam (GRE) score. This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires demonstrating mastery of general knowledge.
- **UPDATE:** In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted **on or after July 1, 2015**, may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT SUBTEST	GRE SUBTEST	MINIMUM GRE SCORE REQUIRED TO SUBSTITUTE FOR GK SUBTEST
GK Writing Subtest (Essay)	GRE Analytical Writing	A combined score of 4 out of 6
GK English Language Subtest Skills	GRE Verbal Reasoning	A scaled score of 151
GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Students may not switch from an MA program to an MEd program, or vice versa, without going through the university's admission process.

Application Deadlines

Exceptional Student Education K-12 MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Nov 15	Apr 1
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Matthew Marino PhD
Program Director
matthew.marino@ucf.edu
407-823-1227
ED 2315L

Exceptional Student Education MEd

PROGRAM DESCRIPTION

The MEd in Exceptional Student Education program prepares exceptional education teachers to work in programs serving Pre-K-12 students with disabilities.

The program is designed for teachers already certified in exceptional student education (or other certification in special education) to enhance their knowledge, skills, and dispositions.

CURRICULUM

The Master of Education (M.Ed.) in Exceptional Student Education program is designed for teachers already certified in exceptional student education to enhance their knowledge, skills and dispositions. It requires 33 credit hours beyond the bachelor’s degree including a 3-credit-hour research course, 24 credit hours of specialization courses and 6 credit hours of either a thesis or electives approved by an adviser. A Comprehensive Examination is also required and serves as the culminating experience in the program. Individual Learning Projects, including research skills and action research in authentic settings, are embedded in the specialization courses.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Required Course—3 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Students are strongly encouraged to enroll in this course early in their graduate program.

Specialization Courses—24 Credit Hours

The following courses are specialization courses. Please see your adviser for guidance regarding the selection of the courses.

- EEX 6061 Instructional Strategies Pre-K-6 (3 credit hours)*
- EEX 6065 Programming for Students with Disabilities at the Secondary Level (3 credit hours)
- EEX 6107 Teaching Spoken and Written Language (3 credit hours)**
- EEX 6295 Assessment and Curriculum Prescriptions for the Exceptional Population (3 credit hours)
- EEX 6342 Seminar—Critical Issues in Special Education (3 credit hours)
- EEX 6524 Organization and Collaboration in Special Ed (3 credit hours)
- EEX 6612 Methods of Behavioral Management (3 credit hours)
- EEX 6863 Supervised Teaching Practicum with Exceptional Children (for completion of the Severe and Profound Endorsement ONLY) or elective approved by an adviser (3 credit hours)

*EEX 6061 recommended to be completed successfully prior to enrollment in EEX 6107.

**EEX 6107 may be taken only AFTER 18 hours of graduate coursework in Exceptional Student Education have been completed successfully.

Thesis Option—6 Credit Hours

- EEX 6971 Thesis (6 credit hours)

Nonthesis Option—6 Credit Hours

Nonthesis students choose one of the following options:

- EEX 6909 Research Report (6 credit hours) OR
- Two additional electives approved by an adviser (6 credit hours)

Suggested areas of concentration may be taken as approved electives within the M.Ed. program. Please see complete listings of additional courses in Certificate/Endorsement Programs in Exceptional Student Education for possible electives (Autism Spectrum Disorder, Intervention Specialist, Pre-K Disabilities, Severe and Profound, and Special Education). Electives must be approved by an adviser.

Comprehensive Examination

The culminating Comprehensive Examination must be successfully completed to demonstrate mastery of research, skills, knowledge and dispositions of standards from accrediting educational agencies prior to graduation.

INDEPENDENT LEARNING

The MEd program may require a Supervised Teaching Practicum as an elective that is part of the Severe and Profound certificate. Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on and refine knowledge and skills acquired in the program. Please see your adviser for further information.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide a current Florida Professional Teaching Certificate in Exceptional Student Education or have completed all the requirements for that Professional Teaching Certificate. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Current Florida Professional Teaching Certificate in Exceptional Student Education or have completed all the requirements for that Professional Teaching Certificate.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applicants who have graduated from an accredited university or college teacher certification program in another state or country, in the appropriate subject and/or grade range, may also be admitted to the M.Ed. program with approvals from appropriate College and Department committees and advisors.

Students may not switch from an M.A. program to an M.Ed. program, or vice versa, without going through the university's admission process. Courses used to gain initial state certification may not be transferred into an M.Ed. program.

Application Deadlines

Exceptional Student Education MEd	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Nov 15	Apr 1
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

Forensic Science MS

PROGRAM DESCRIPTION

The Master of Science in Forensic Science program is designed to service the needs of both practicing professionals and full-time students who desire an advanced program of study in forensic science. The program is comprised of three concentrations: Forensic Analysis, Forensic Biochemistry and Forensic Professional.

The Master of Science in Forensic Science program is designed to service the needs of both practicing professionals and full-time students who desire an advanced program of study in forensic science. The program is comprised of three concentrations: Forensic Analysis, Forensic Biochemistry and Forensic Professional. The Forensic Biochemistry and Forensic Analysis concentrations require the student to perform original research and defend a written thesis. The Forensic Professional concentration is a nonthesis option comprised of course work and an independent study capstone project.

Forensic Science is a highly interdisciplinary science, as reflected in the following programs of study. The interdisciplinary nature of the program makes it imperative that students seek advising from faculty members on the content of courses to ensure that they have the appropriate background to master the course content.

Thesis Options

The grounding in scientific research methodology provided by the thesis requirement is a central focus of the thesis-based concentrations. The Forensic Analysis and Biochemistry concentrations are comprised of 32 credit hours of study beyond the BS degree. Students will conduct research either on site or at the professional laboratories where they work. In either case, a member of the UCF Forensic Science faculty will act as research adviser and approve the research topic. This research culminates in the writing and presentation of the thesis.

The student's research adviser will select the thesis examination committee, consisting of two UCF faculty members and at least one other acknowledged forensic expert in the field. The student will present his/her thesis for examination by the committee. The thesis must be judged worthy of publication by the review committee and may not be submitted for examination until approved. For students choosing to conduct research at non-UCF sites, the thesis adviser may visit the student's laboratory where the research is to be performed, before the research begins and on a regular basis until the work is complete.

Forensic Analysis Concentration: The Forensic Analysis concentration emphasizes the application of modern chromatographic, spectroscopic and micro-analytical techniques to problems in forensic science. This specialized program option is not designed for international applicants.

Forensic Biochemistry Concentration: The Forensic Biochemistry concentration has a strong biochemistry-DNA focus to serve the needs of supervisory personnel in DNA sections of crime laboratories. National DNA standards mandate that such personnel have advanced degrees. This specialized program option is not designed for international applicants.

Nonthesis Option

The nonthesis concentration is specifically designed for the forensic analyst who currently holds employment in an operational forensic laboratory or has previously worked for a minimum of three years in an operational forensic laboratory. Applicants who do not meet these criteria must apply for one of the thesis-based concentrations. International applicants should apply for the Forensic Professional Concentration.

Forensic Professional Concentration: The Forensic Professional concentration is comprised of 34 credit hours of study beyond the bachelor of science degree but does not require an original laboratory-based research project. The Forensic Professional concentration culminates in a one-credit-hour independent study capstone project performed under the direction of one of the faculty members in the program.

CURRICULUM

The Forensic Science MS degree is comprised of 32 or 34 credit hours of study beyond the BS degree with intensive specialization in one of three concentrations: Forensic Analysis, Forensic Biochemistry or Forensic Professional. Full-time students should complete the degree in two years of continuous full-time study, while part-time students will generally finish the degree in four years.

The program in Forensic Analysis and Forensic Biochemistry is research-based and requires original and independent research resulting in a written thesis to be defended before a committee consisting of two UCF graduate faculty members and at least one other acknowledged forensic expert in the field. These concentrations require 32 credit hours, including 9 credit hours of required courses, 15 credit hours of concentration courses, and 8 credit hours of Thesis.

The program in Forensic Professional requires 34 credit hours, including 9 hours of required courses and 24 hours of elective courses and one credit hour of independent study as the capstone experience. This concentration does not require an original laboratory-based research project. Students not in residence at UCF should consult the catalog for courses with online offerings.

Students with undergraduate degrees in forensic science, chemistry, biochemistry, physics and biology are encouraged to apply.

Total Credit Hours Required:

32-34 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

Students in all three concentrations take the following required courses and complete either the thesis option or the nonthesis option.

- CHS 5504 Topics in Forensic Science (3 credit hours)
- CHS 5596 The Forensic Expert in the Courtroom (3 credit hours)
- CHS 6513 Quality Assurance for Forensic Scientists (3 credit hours)

Thesis Option—23 Credit Hours

Forensic Analysis Concentration—15 Credit Hours

Students in the Forensic Analysis concentration take 15 credit hours from the following courses and complete a thesis.

- STA 5206 Statistical Analysis (3 credit hours) or equivalent course
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 6492 Atomic Spectroscopy (3 credit hours)
- CHS 6546 Forensic Analysis of Ignitable Liquids (3 credit hours)
- CHS 6545 Forensic Analysis of Explosives (3 credit hours)
- CHS 5937 Chemometric Applications in Forensic Science (3 credit hours)

Forensic Biochemistry Concentration—15 Credit Hours

Students in the Forensic Biochemistry concentration take the following courses and complete a thesis.

- STA 5206 Statistical Analysis (3 credit hours) or equivalent course
- CHS 6535L Forensic Analysis of biological Materials (3 credit hours)
- CHS 6535 Forensic Molecular biology (3 credit hours)

- CHS 6536 Population Genetics and Genetic Data Analysis (3 credit hours)
- BCH 6740 Advanced Biochemistry (3 credit hours)

Thesis—8 Credit Hours

The Forensic Analysis and Forensic Biochemistry concentrations require the student to conduct original research and successfully defend a written thesis.

- CHS 6971 Thesis (8 credit hours)

Nonthesis Option—25 Credit Hours

Forensic Professional Concentration—24 Credit Hours

Students in the Forensic Professional concentration are required to take 24 credit hours selected from the list below with approval of their faculty adviser and complete the Capstone course.

- STA 5206 Statistical Analysis (3 credit hours)
- CHM 5235 Applied Molecular Spectroscopy (3 credit hours)
- CHM 6492 Atomic Spectroscopy (3 credit hours)
- CHS 6546 Forensic Analysis of Ignitable Liquids (3 credit hours)
- CHS 6545 Forensic Analysis of Explosives (3 credit hours)
- CHS 6535L Forensic Analysis of Biological Materials (3 credit hours)
- CHS 6535 Forensic Molecular Biology (3 credit hours)
- CHS 6536 Population Genetics and Genetic Data Analysis (3 credit hours)
- BCH 6740 Advanced Biochemistry (3 credit hours)
- CGS 5131 Computer Forensics I (3 credit hours)
- CNT 6418 Computer Forensics II (3 credit hours)
- CHS 5518 Forensic Examination of Digital Evidence (3 credit hours)
- CIS 6207 Practice of Digital Forensics (3 credit hours)
- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)
- CHS 5937 Chemometric Applications in Forensic Science (3 credit hours)
- CHM 6710 Applied Analytical Chemistry (3 credit hours)
- CHM 6440 Kinetics and Catalysis (3 credit hours)
- CHS 6251 Applied Organic Synthesis (3 credit hours)
- CHS 6240 Chemical Thermodynamics (3 credit hours)
- BCH 6740 Advanced Biochemistry (3 credit hours)
- CHM 6134 Advanced Instrumental Analysis (3 credit hours)
- CHM 6938 Special Topics (3 credit hours)

Capstone—1 Credit Hour

The capstone experience in the Forensic Professional concentration requires one credit hour of Independent Study, which culminates in the submission of a required report on a pre-approved topic. This study will comprise either (1) a review of the current literature on a particular forensic science research topic area, or (2) a holistic case study dealing with a particular criminal case in which forensic evidence played a significant role.

- CHS 6908 Independent Study (1 credit hour)

Equipment Fee

Full-time students in the Forensic Science MS program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 per semester.

INDEPENDENT LEARNING

Students in the Forensic Analysis and Forensic Biochemistry concentrations are required to conduct original research and defend a written thesis. Students in the Forensic Professional concentration complete a capstone experience that requires independent research and a report.

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- A bachelor's in Forensic Science or another physical science, based on at least 30 hours of college-level science subjects, that provides the background required to be successful in the proposed program. Acceptable non-Forensic Science BS degrees may include Chemistry, Physics, Molecular Biology, and Chemical Engineering.
- Three letters of recommendation. If the applicant is employed in a forensic laboratory and wishes to continue working in that laboratory while a distance learner in the Forensic Science MS program, one letter should come from his/her supervisor and should express their willingness to allow the student to use the laboratory instrumentation for their thesis research. Otherwise, the student will be unable to complete the research component of the degree.
- Short (one page) statement describing why the applicant wants to pursue an advanced degree in Forensic Science.

The Forensic Science Graduate Committee will evaluate the background of potential students applying for admission into the program.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Forensic Science MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Jack Ballantyne PhD
Professor
Program Director
jballant@ucf.edu
407-823-0163
Chemistry 117

Health Administration MHA

- Executive Health Services Administration
- Health Services Administration

PROGRAM DESCRIPTION

The College of Health and Public Affairs offers a Master of Health Administration with two tracks: Health Services Administration and the Executive Health Services Administration.

The track in Health Services Administration is a traditional program and the Executive Health Services Administration is geared toward professionals with at least three years of Health Management experience.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

Kourtney Nieves PhD
Program Director
kourtney.nieves@ucf.edu
407-823-3264
HPA 2, Room 206

Health Administration MHA

Executive Health Services Administration

TRACK DESCRIPTION

The Department of Health Management and Informatics offers a CAHME accredited Executive Master of Health Administration (Executive MHA). This program is 44 credit hours beyond the bachelor's degree and is designed for self-motivated, experienced health services professionals with a minimum of three years of relevant professional experience, including managers, mid-career professionals, and clinicians.

Health care is America’s fastest growing service industry. The Master of Health Administration focuses on the structure of health care organizations and examines important issues that impact the health care industry. The Executive MHA (eMHA) track is attractive to working health care professionals due to the online delivery format, which allows students to earn an Executive MHA degree from any location and at times convenient to each student. Develop and enhance your leadership skills to lead your health care organization to a better tomorrow. Learn from leading experts and academics in the field of health administration.

Students admitted into this program must possess a minimum of three years of relevant health care management experience. Students enroll in the program as a cohort with a maximum of 30 students. The cohort model provides faculty the opportunity to discuss issues in greater detail and allows students the ability to network among their peers. The program will be delivered in an online format.

CURRICULUM

The Executive Master of Health Administration track requires a minimum of 44 credit hours beyond the bachelor's degree. Students must pass the capstone course at the end of their studies as part of HSA 6188 Capstone in the Executive MHA program.

This program can be completed completely online with a course sequence that is lock-step and students must follow the required sequence of course work.

Total Credit Hours Required:

44 Credit Hours Minimum beyond the Bachelor's Degree

The term each course is offered is indicated in the course listing below.

Required Courses—44 Credit Hours

Core—40 Credit Hours

- HSA 6766 Health Care Statistics and Research (4 credit hours) – *Offered first Fall*
- HSA 6345 Leadership for Health Care Executives (4 credit hours) – *Offered first Fall*
- HSA 6179 Financial Accounting for Health Care Managers (4 credit hours) – *Offered first Spring*
- HSA 6346 Health Care Organizational Behavior and Human Resource Management (4 credit hours) – *Offered first Spring*
- HSA 6505 Health Care Quality and Risk Management (4 credit hours) – *Offered first Summer*
- HSA 6178 Financial Management for Health Care Managers (4 credit hours) – *Offered first Summer*
- HSA 6197C Health Care Informatics for Health Care Leaders (4 credit hours) – *Offered second Fall*
- HSA 6156 Health Care Economics and Policy (4 credit hours) – *Offered second Fall*
- HSA 6520 Epidemiology and Health Planning (4 credit hours) – *Offered second Spring*
- HSA 6555 Health Care Ethics and Law (4 credit hours) – *Offered second Spring*

Capstone—4 Credit Hours

A final written examination experience is required of all students in the program. This requirement will be met through successful completion of the capstone course (HSA 6188). To successfully pass this course, students must earn a grade of "A" or "B." There is one exception: students who earn no other "C" grades while in the Executive MHA program will be permitted to pass this course with a grade of "C."

- HSA 6188 Health Care Capstone and Strategic Management (4 credit hours; see description below) – *Offered second Summer*

Cost Per Credit Hour

For the Executive Master of Health Administration program, the cost per credit hour is $772.69.*

*Fee is subject to change

Additional Program Requirements

Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

Additionally, a student may apply a maximum total of six semester credit hours of "C" grades, or the "C" grade credits associated with at most two classes, whichever is greater, to satisfy degree program requirements. Students who earn more than six credit hours or two "C" grades may be dismissed from further study in the program. A student who earns a grade of "D" or below will be dismissed from further study in the Executive MHA program. In any course repeated, a student must earn a grade of "B" or better. The Executive Master of Health Administration program generally does not use plus/minus grading.

Audio and Visual Equipment Requirement: The program is 100 percent online, however in our commitment to engage students in an online learning environment, there may be times when the professors hold webinars and virtual conferences which require students to be online. As such, students need reliable audio and visual equipment (i.e. microphone, headsets, web camera, etc.) to participate in webinars and video conferences.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Tangible research projects, scholarly papers, or our capstone experience also contribute to the self-development of our students.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide a goal statement (indicating how the MS - Executive Health Services Administration track will enhance career goals), and a résumé (no longer than two pages). Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation and TOEFL scores. Credential evaluations are only accepted from World Education Services (WES) or Josef Silny and Associates, Inc.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Essay indicating how the Executive Master of Health Administration track will enhance career goals (1-2 pages).
- Résumé (no longer than two pages).
- Evidence of a minimum of three (3) years or more of relevant professional experience in healthcare.
- Three recommendation letters that speak to your health care and/or management experience (1 of those recommendation letters must be from your current supervisor).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation and TOEFL scores. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past academic performance, work experience, and the match of the program with career goals. The Executive Master of Health Administration track accepts the most qualified students. Not all students who apply may be accepted, even if minimum requirements are met.

Students are admitted to the Executive MHA track during the fall semester of each academic year. The program utilizes a cohort model; thus, only full-time enrollment is available (there are no part-time options available).

UCF employees and state employees cannot use the tuition waiver for this program.

Application Deadlines

Executive Health Services Administration	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	July 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Bernardo Ramirez MD, MBA
Assistant Professor
Program Director
Bernardo.Ramirez@ucf.edu
407-823-4133
HPA2 210

Health Administration MHA

Health Services Administration

TRACK DESCRIPTION

The Department of Health Management and Information offers a Master of Health Administration with a track in Health Services Administration. The HSA track is 51 credit hours beyond the bachelor's degree and is accredited by the Commission on Accreditation of Healthcare Management Education (CAHME).

Health care is America's fastest-growing service industry, and health care executives are in demand to administer the acute and long-term care needs of an aging population and to serve as consultants to businesses and industrial organizations. The Master of Health Administration degree program focuses on the structure of health care organizations and examines important issues that impact the health care industry as well as examining the management and administrative aspects of health services organizations. It encompasses the business management side of health care, including human resources, marketing, sales, accounting, information systems, planning, and facility management.

The HSA track is attractive to working professionals with its flexibility in course offerings and times. Students will take courses in a variety of formats with the ability to choose from courses that are offered face-to-face, during evening hours, and occasionally online.

Working professionals with 3 or more years of health care management experience may wish to consider the Executive Master of Health Administration (e-MHA): www.cohpa.ucf.edu/hmi/emshsa.cfm.

CURRICULUM

The Health Services Administration track in the Health Administration MHA program requires a minimum of 51 credit hours beyond the bachelor's degree. This includes 42 credit hours of required courses, 3 credit hours of the capstone course, 3 credit hours of electives, and 3 credit hours of an internship. The degree program also requires 6 credit hours of prerequisite courses, which may be taken after admission into the program. Knowledge of personal computers is also required.

Total Credit Hours Required:

51 Credit Hours Minimum beyond the Bachelor's Degree

Most required courses alternate between Fall, Spring, and Summer semesters and are not offered every term. The term each course is regularly offered is indicated in the course listing below. Students must meet with their academic adviser to develop a plan of study. A schedule of the program's curriculum can be found at the program website above.

The Master of Health Administration program offers courses in both mixed-mode and face-to-face formats. This program cannot be completed online. Students with professional healthcare experience who are interested in an entirely online program can pursue the Executive track in the Health Administration MHA program.

Prerequisites

Students must complete prerequisite course work, including knowledge of finance and economics. Upon admission to the MHA program, students will be required to complete 2 prerequisite assessment tests. Students that receive a passing score of a 80% or higher will be exempt from taking the prerequisite in the respective area. These prerequisite courses may be taken after admission to the program.

- HSA 5177 Foundation of Health Care Finance (3 credit hours)
- HSA 5436 Foundation of Health Care Economics (3 credit hours)

Required Courses—45 Credit Hours

Core—42 Credit Hours

- HSA 5198 Health Care Decision Sciences and Knowledge Management (3 credit hours) - *offered Spring*
- HSA 6119 Health Care Organization and Management I (3 credit hours) - *offered Spring*
- HSA 6128 Health Care Services Management (3 credit hours) - *offered Spring*
- HSA 6155 Health Economics and Policy (3 credit hours) - *offered Spring*
- HSA 6195 Management and Health Information Systems (3 credit hours) - *offered Spring*
- HSA 6342 Health Care Human Resources Management (3 credit hours) - *offered Fall*
- HSA 6385 Health Care Quality Management (3 credit hours) - *offered Summer*
- HSC 6636 Issues and Trends in the Health Professions (3 credit hours) - *offered every semester*
- HSC 6911 Scientific Inquiry in the Health Professions (3 credit hours) - *offered Fall*
- PHC 6000 Managerial Epidemiology (3 credit hours) - *offered Summer*
- PHC 6146 Health Planning and Policy (3 credit hours) - *offered Fall*

- PHC 6160 Health Care Finance I (3 credit hours) - *offered Fall*
- PHC 6164 Health Care Finance II (3 credit hours) - *offered Spring*
- PHC 6420 Case Studies in Health Law (3 credit hours) - *offered Spring*

Capstone—3 Credit Hours

A final written examination experience is required of all students in the program. This requirement will be met through successful completion of the capstone course (HSA 6925). To successfully pass this course, students must earn a grade of "A" or "B." There is one exception: students who earn no other "C" grades while in the MHA program will be permitted to pass this course with a grade of "C."

- HSA 6925 Capstone in HSA (3 credit hours) - *offered every semester*

Elective Courses—3 Credit Hours

Choose one course from the following list:

- HSC 6656 Health Care Ethics (3 credit hours)
- HAS 6112 International Health Care (3 credit hours)
- HAS 6512 Health Care Leadership (3 credit hours)
- HSA 6128 Health Care Services Management (3 credit hours) - *offered Spring*
- HSA 6536 Health and Medical Terminology for Health Administrators (3 credit hours)
- HSA 5509 Health Care Risk Management (3 credit hours)
- PHC 6183 Healthcare Emergency Management 3 (credit hours) - offered Spring
- PUP 6607 Politics of Health Care (3 credit hours)
- NGR 5660 Health Disparities: Issues and Strategies (3 credit hours)
- ENC 5237 Writing for the Business Professional (3 credit hours)
- GEY 5648 Gerontology: An Interdisciplinary Approach (3 credit hours)
- Or an alternative graduate-level course at the discretion of the Program Director

Internship—3 Credit Hours

As a requirement for the Master of Health Administration, students must complete an internship within the administrative realm of an actual health care organization. Students will work directly with the Director of Internships to select an organization of interest. Students are required to fulfill 240 contact hours within their selected organization over the course of the semester, or approximately 18-20 hours per week.

Many health care organizations will require that students complete a background check, which may include, but is not be limited to, law enforcement finger printing, state driving records, credit reports, and criminal records check. The cost of the background check is the student's responsibility. Background checks may take time to complete and, subsequently, could delay the student's internship placement. It is advised that, in the semester prior to the internship, the student contact the organization directly to obtain further information on the organization's background check requirements. Students who have potential background issues must contact the Director of Internships to schedule an interview in order to discuss the impact on field placement. The Health Services Administration Program cannot guarantee internship placement or subsequent degree completion for students who do not pass background checks

- HSA 6946 Internship (3 credit hours) - *offered every semester* (Pre requisites: 24 credit hours completed in the program)

Students with 3 or more years of relevant health care management experience may qualify for a research-based internship option and are advised to contact the Director of Internships.

Independent Learning

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Tangible research projects, scholarly papers, internships, and the capstone experience also contribute to the self-development of our students.

Additional Program Requirements

Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

Additionally, students may not earn more than six credit hours of "C" grades while in the program. Students who receive more than six credit hours of "C" will be dismissed from further study in the major. A student who earns a grade of "D" or below will be dismissed from further study in the HSA program. In any course repeated, a student must earn a grade of "B" or better. The Health Services Administration program generally does not use plus/minus grading.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide a goal statement (indicating how the Master of Health Administration program will enhance career goals), and a résumé (no longer than two pages). Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Goal statement indicating how the Master of Health Administration program will enhance career goals.
- Résumé (no longer than two pages).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past academic performance, work experience, and the match of the program with career goals. The Master of Health Administration program accepts only the most qualified students. Not all students who apply may be accepted, even if minimum requirements are met. Applicants who do not meet admission criteria are subject to an interview.

Students are admitted to the Master of Health Administration program in the fall and spring semesters. Full and part-time plans of study are available for both fall and spring admission cycles.

Application Deadlines

Health Services Administration	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Pamela VonGraff
Program Staff
pamela.vongraff@ucf.edu
407-823-0564
HPA II - 210A

Health Care Informatics MS, Professional Science Master's

PROGRAM DESCRIPTION

The Department of Health Management and Informatics offers a Professional Science Master's Program in Health Care Informatics, a program designed to meet the growing demand for highly trained health care informatics professionals.

The Health Care Informatics program is unique in that it focuses on providing students with a thorough grounding in the clinical, management and business aspects of the health informatics field. Credits must be taken in health care database management, systems analysis and design, privacy and security and other courses in the curriculum. Students are required to complete an internship during the last semester in the program.

The program is offered online in a distance-learning cohort format to offer access and convenience to working professionals. Applications and admissions are accepted twice per year for fall and spring terms only. Students with professional experience in health care, new graduates from bachelor's programs in health services and students seeking career changes to the health care industry are all encouraged to apply.

The Health Care Informatics program is entirely online. This program charges an enhanced tuition rate. Please visit Continuing Education for more information on tuition costs.

For state employees (including UCF employees), the tuition waiver will not cover courses in the HCI program.

The successful completion of the MS - HCI degree does NOT qualify graduates to sit for the Registered Health Information Administrator (RHIA) or the Registered Health Information Technician (RHIT) certifications.

However, graduates WITH EXPERIENCE are eligible to sit for the Certified Health Data Analyst (CHDA) certification after the successful completion of your MS-HCI degree.

CURRICULUM

The Professional Science Master's Program in Health Care Informatics will be awarded upon completion of 38 credits of prescribed graduate study. Courses are offered all online as a cohort program. All students must take the courses in the prescribed sequence, and during the last semester in the program students complete an internship and Capstone course.

Total Credit Hours Required:

38 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

There are no prerequisites required for the program. However, students without the necessary professional or educational experience are required to take three foundational courses in health services administration, health information management, and medical terminology. These can be completed while enrolled in the MS - HCI program.

Foundational courses

- HIM 6007 Survey of Health Information Management (1 credit hour)
- HIM 6267 Foundation of Health Services Administration (1 credit hour)
- HIM 6477 Medical Terminology for Informatics Professionals (1 credit hour)

Required Courses—38 Credit Hours

- HIM 5118C Health Care Informatics and Information Technology (4 credit hours)
- HIM 6119C Biostatistics and Decision Analysis (4 credit hours)
- HIM 6121C Privacy and Security in Health Care Informatics (4 credit hours)
- HIM 6122C System Analysis and Design (4 credit hours)
- HIM 6123C Project Management in Health Care Informatics (4 credit hours)
- HIM 6124C Health Care Data Architecture and Modeling (4 credit hours)
- HIM 6125 Health Care Informatics Capstone (3 credit hours)
- HIM 6217C Health Care Database Management (4 credit hours)
- HIM 6464C Epidemiology, Analytics and Quality Management (4 credit hours)
- HIM 6947 Health Care Informatics Internship (3 credit hours)

Cost Per Credit Hour

For the Health Care Informatics MS program, the cost per credit hour is $772.69.*

*Fee is subject to change

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide a goal statement (indicating how the Professional Science Master's Program in Health Care Informatics will enhance career goals) and a résumé (no longer than two pages). Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation and TOEFL scores. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate admission requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Goal statement indicating how the Health Care Informatics MS program will enhance career goals or why the applicant wants to pursue this degree (at least 1 page, doubled-spaced, 12 pt).
- Résumé (no longer than two pages).
- Applicants applying to this program who have attended a college/university outside

the United States must provide a course-by-course credential evaluation with GPA calculation and TOEFL scores. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past academic performance, work experience, and the match of the program with career goals. The Professional Science Master's Program in Health Care Informatics accepts the most qualified students. Not all students who apply may be accepted, even if minimum requirements are met. Furthermore, personal phone interviews may be used as part of the evaluation process.

A criminal background check is required to begin the internship in the program and may preclude you from getting an internship.

Application Deadlines

Health Care Informatics MS, Professional Science Master's	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Kendall Cortelyou-Ward PhD
Program Director
Kendall.Cortelyou-Ward@ucf.edu
HPA2 210J

History MA

- Accelerated Graduate Program in History
- Public History

PROGRAM DESCRIPTION

The Master of Arts in History is designed to serve the needs of a variety of students, including those who plan to pursue a PhD, those wishing to improve their proficiency as secondary school teachers, and those who seek to enrich their intellectual lives. In addition to the General MA program, Public History and Accelerated Undergraduate to Graduate tracks are offered.

Students are served by departmental members whose areas of research include classical history, early Christianity, African history, American cultural and social history, local history, the South, the American Civil War, the American frontier, women and gender roles, Asian history, Middle-Eastern history, twentieth-century mass movements, Nazism and anti-Semitism in Central Europe, Latin American history, and European history, as well as other areas.

CURRICULUM

The History MA program requires a minimum of 36 credit hours beyond the bachelor's degree, including 6 credit hours of core courses, 18 credit hours in an area of specialization, and 6 credit hours of electives outside of the area of specialization. At least 18 credit hours of the 36 required must be at the 6000 level.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—24 Credit Hours

Core—6 Credit Hours

- HIS 6159 Historiography (3 credit hours)
- HIS 6905 History Capstone Class (3 credit hours)

Specialization—18 Credit Hours

Students may specialize in one of the two areas below. Specialization courses must be approved by the student's adviser.

Eastern Hemisphere: African, Asian, European, or Middle Eastern

- AFH 5259 Colloquium in African History (3 credit hours)
- AFH 5806 The Historiography of Slavery in Africa (3 credit hours)
- ASH 5229 History of the Middle East (3 credit hours)
- ASH 5408 Colloquium in Modern China (3 credit hours)
- ASH 5485 U.S. China Relations (3 credit hours)
- ASH 5925 Colloquium in South Asian History (3 credit hours)
- ASH 6936 Seminar in U.S. China Relations (3 credit hours)
- EUH 5419 Colloquium in Roman History (3 credit hours)
- EUH 5459 Colloquium in French History (3 credit hours)
- EUH 5546 Colloquium: British History (3 credit hours)
- EUH 5579 Colloquium in Soviet Russia (3 credit hours)
- EUH 5595 Colloquium in Czarist Russia (3 credit hours)
- EUH 5905 European Imperialism (3 credit hours)
- EUH 5925 Colloquium in Medieval Europe (3 credit hours)
- EUH 6939 Seminar in European History (3 credit hours)

Western Hemisphere: Caribbean, North American, or South American

- AMH 5116 Colloquium in U.S. Colonial History (3 credit hours)
- AMH 5137 Colloquium in U.S. Revolutionary Period (3 credit hours)
- AMH 5149 Colloquium in Early U.S. History, 1789-1815 (3 credit hours)
- AMH 5169 Colloquium in Age of Jackson (3 credit hours)
- AMH 5176 Colloquium in Civil War and Reconstruction (3 credit hours)
- AMH 5219 Colloquium in Late 19th Century U.S. (3 credit hours)
- AMH 5296 Colloquium in 20th Century U.S. (3 credit hours)
- AMH 5378 History of Technology (3 credit hours)
- AMH 5391 Colloquium in U.S. Cultural History (3 credit hours)
- AMH 5406 Colloquium in American South (3 credit hours)
- AMH 5446 Colloquium in U.S. Frontier (3 credit hours)
- AMH 5566 Colloquium: Women in American History (3 credit hours)
- AMH 5636 Colloquium in U.S. Environmental History (3 credit hours)
- AMH 5925 Colloquium in U.S. Military History (3 credit hours)
- AMH 6346 Seminar in the History of American Automobility (3 credit hours)
- AMH 6429 Seminar in Community and Local History (3 credit hours)
- AMH 6592 Seminar in Oral History (3 credit hours)
- AMH 6939 Seminar in U.S. History (3 credit hours)
- HIS 5067 Introduction to Public History (3 credit hours)
- HIS 5083 Cultural Heritage Management (3 credit hours)
- HIS 5095 Readings in Historic Preservation (3 credit hours)
- HIS 5925 History in the Digital Age (3 credit hours)
- HIS 6068 Seminar in Documentary Editing (3 credit hours)
- HIS 6096 Seminar in Historic Preservation (3 credit hours)
- HIS 6165 Digital Tools for Historians (3 credit hours)

- LAH 5920 Colloquium in Latin American History (3 credit hours)
- LAH 6936 Seminar in Latin American History (3 credit hours)

Elective Courses—6 Credit Hours

Students will choose history courses outside their area of specialization.

- Electives (6 credit hours)

Thesis—6 Credit Hours

- HIS 6971 Thesis (6 credit hours minimum)

The culminating event of the program is a minimum of six credit hours at the 6000-level developing and sustaining a historical argument in writing according to the accepted professional and ethical standards of the discipline.

Thesis Defense

The final step in completing the thesis requirement is a one-hour oral defense before the thesis committee.

Comprehensive Examinations

Each candidate for the Master of Arts in History must pass written examinations in two fields upon conclusion of regular course work and before beginning a thesis. These examinations must be taken and passed as part of the requirements for the capstone course. Students are provided two attempts at successfully passing the examinations. Each student will also submit a thesis prospectus and preliminary bibliography, which the three members of the student's thesis committee judge acceptable as the preliminary step to beginning the thesis. An oral defense of the written exams and the thesis prospectus and bibliography is also a requirement of the capstone course.

Foreign Language

Students will also be expected to demonstrate a reading competency in one foreign language. The foreign language examination must be completed one semester prior to the thesis defense.

APPLICATION REQUIREMENTS

In addition to meeting general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a bachelor's degree in history or an equivalent, a statement of research interests and goals, and three letters of recommendation; applicants from countries where English is not the official language or applicants with degrees from non-U.S. accredited institutions must achieve a minimum score of 233 on the TOEFL.

In addition to the general UCF graduate application requirements, applicants must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in History (or an equivalent).
- A 3.25 GPA in all upper division history courses taken as an undergraduate student.
- Official, competitive GRE score taken in the last five years.
- A written statement describing personal goals and objectives in seeking a graduate degree in history.
- Three letters of recommendation from former professors who can address applicant's ability to undertake graduate-level history courses.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of

instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Applicants who hold an undergraduate degree in History but do not have a GPA of 3.0 in all work attempted while registered as an undergraduate student, or while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours), or a 3.25 GPA in their history courses, or do not have a competitive score on the combined verbal-quantitative sections and/or the individual verbal or analytical writing sections of the GRE may take up to 9 hours of graduate courses as non-degree-seeking students. To be admitted into the graduate program, however, they must earn a 3.3 GPA or higher in the graduate-level history courses they take under this status.

Generally, applicants who meet all of the above requirements but do not have an undergraduate degree in History must complete 12 hours of history course work at the 3000 and 4000 level, with a 3.25 GPA in these courses, before entering the graduate program. These courses will not count toward the graduate degree. The History Department Graduate Committee can waive this requirement, in whole or in part, when applicants present evidence that they are capable of successfully completing graduate history courses.

If, in addition, applicants do not meet one of the other requirements for entry, such as a GPA of 3.0 in all work attempted while registered as an undergraduate student, or while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours), or a competitive score on the combined verbal/quantitative and/or the individual verbal or analytical writing sections of the GRE, they must complete 12 hours of course work at the 3000 and 4000 level with GPA of 3.5 before they can be admitted to the graduate program.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

History MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 1	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Amelia Lyons PhD
Associate Professor
Program Director
amelia.lyons@ucf.edu
407-823-2225
Colbourn Hall 534D

History MA

Accelerated Graduate Program in History

TRACK DESCRIPTION

The Accelerated Undergraduate/Graduate track in the History MA program allows highly qualified undergraduate majors in history to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate program.

Participation will enable completion of the Bachelor of Arts and Master of Arts degrees in five instead of six years for students enrolled in full-time course work.

CURRICULUM

The History BA is awarded after completion of 36 hours of history courses and all other university requirements, and the History MA is awarded upon completion of the master's program. Courses designated in General Education Program and Common Program Prerequisites are usually completed in the first 60 hours (see history major requirements in the Undergraduate Catalog).

The departmental residency requirement is at least 18 semester hours of regularly scheduled 3000- or 4000-level courses taken from the UCF History Department. Students may substitute up to 9 hours of 5000- or 6000-level courses to meet this requirement.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Additional Notes on the Accelerated Undergraduate and Graduate Program in History

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a "B-" in each undergraduate and graduate history course for them to be counted toward the major.
- Students must compile a portfolio of their written work in history (completed inside and outside the classroom).
- Students admitted to the combined bachelor's/master's program may take one 5000-level course the first semester of their senior year.
- After successfully completing one 5000-level course, students will be eligible to take HIS 6159 Historiography and another 5000-level course or the 6000-level seminar following the 5000-level colloquium they have already completed.
- Students may substitute these 9 hours of graduate-level work for 9 hours of 3000- or 4000-level undergraduate work
- Students need to pay fees at the graduate rate for the graduate courses they take.

Schedule for Students Enrolled Full-time

- Students complete 9 hours of graduate-level courses in their senior year.
- Students enroll in at least 3 credit hours of graduate-level courses the summer after they receive their bachelor's degree.
- Students enroll in 9 hours of graduate-level courses in both spring and fall semesters during their master's program.
- Students complete the Capstone course, pass their preliminary exams, and fulfill their foreign language requirement by the end of their first year in the master's program.
- Students complete and defend a master's thesis in 6 hours.

Undergraduate Requirements

Please see the current edition of the Undergraduate Catalog.

Graduate Requirements

The History MA program requires a minimum of 36 credit hours beyond the bachelor's degree, including 12 credit hours of required courses, 18 credit hours in an area of concentration, and six credit hours of electives outside of the area of concentration. Students must pass a foreign language competency test, pass a written examination in two fields, and successfully complete and defend their thesis. No graduate credit is given for any grade lower than "B- ."

APPLICATION REQUIREMENTS

Students apply for admission to the combined undergraduate and graduate program at the end of their junior year or after 12 hours of upper-level history course work. In addition to meeting general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, an essay indicating reasons for wishing to complete the combined bachelor's/master's program, and three letters of recommendation; applicants from countries where English is not the official language or applicants with degrees from non-U.S. accredited institutions must achieve a minimum score of 233 on the TOEFL.

The accelerated undergraduate/graduate program in history allows highly qualified undergraduate majors in history to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the combined undergraduate and graduate program toward the end of their junior year or after 12 hours of upper-level history course work.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A 3.5 GPA or higher in history courses.
- Official, competitive GRE score taken within the last five years.
- An essay indicating reasons for wishing to complete the combined bachelor's/master's program.
- Three letters of recommendation from the History Department faculty.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Students will be formally admitted to the master's program following receipt of the bachelor's degree.

Application Deadlines

Accelerated Graduate Program in History	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 1	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Amelia Lyons PhD
Associate Professor
Program Director
amelia.lyons@ucf.edu
407-823-2225
Colbourn Hall 534D

History MA

Public History

TRACK DESCRIPTION

The Public History Track in the History MA program is designed to teach students how to preserve and interpret history while engaging a broad variety of audiences. Students who wish to pursue careers in community and local history, digital history, historic site preservation and administration, museum studies, oral history, heritage tourism, or a variety of other careers that employ applied research will find this degree valuable and rewarding.

Courses in the Public History Track allow students to learn the theories, methods, and technical skills historians use as they put history to work in the world. They build on the foundation of reading colloquia and research seminars that are firmly located in time and space to explicitly focus on the practice of history.

CURRICULUM

The Public History track requires a minimum of 36 credit hours beyond the bachelor's degree, including 9 credit hours of required core courses, 15 credit hours in the public history area of concentration, and; 6 credit hours of elective courses taken outside of the area of concentration. All students must pass a foreign language competency test, pass a written examination in two fields, and successfully complete and defend their thesis or project. No graduate credit is given for any grade lower than "B-."

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—24 Credit Hours

Core—9 Credit Hours

- HIS 5067 Introduction to Public History (3 credit hours)
- HIS 6159 Historiography (3 credit hours)
- HIS 6905 History Capstone Class (3 credit hours)

Specialization—15 Credit Hours

Students must take 9 credit hours of Public History courses or internships from the following:

- AMH 6346 Seminar in the History of American Automobility (3 credit hours)
- AMH 6429 Seminar in Community and Local History (3 credit hours)
- AMH 6592 Seminar in Oral History (3 credit hours)
- HIS 5083 Cultural Heritage Management (3 credit hours)
- HIS 5095 Readings in Historic Preservation (3 credit hours)
- HIS 5925 History in the Digital Age (3 credit hours)
- HIS 6068 Seminar in Documentary Editing and New Media (3 credit hours)
- HIS 6096 Seminar in Historic Preservation (3 credit hours)
- HIS 6165 Digital Tools for Historians (3 credit hours)
- HIS 6942 Internship (3 credit hours)

In addition, students must take 6 credit hours from the following Western Hemisphere courses:

Western Hemisphere Courses: Caribbean, North American, or South American

- AMH 5116 Colloquium in U.S. Colonial History (3 credit hours)
- AMH 5137 Colloquium in U.S. Revolutionary Period (3 credit hours)
- AMH 5149 Colloquium in Early U.S. History, 1789-1815 (3 credit hours)
- AMH 5169 Colloquium in Age of Jackson (3 credit hours)

- AMH 5176 Colloquium in Civil War and Reconstruction (3 credit hours)
- AMH 5219 Colloquium in Late 19th Century U.S. (3 credit hours)
- AMH 5296 Colloquium in 20th Century U.S. (3 credit hours)
- AMH 5378 History of Technology (3 credit hours)
- AMH 5391 Colloquium in U.S. Cultural History (3 credit hours)
- AMH 5406 Colloquium in American South (3 credit hours)
- AMH 5446 Colloquium in U.S. Frontier (3 credit hours)
- AMH 5566 Colloquium: Women in American History (3 credit hours)
- AMH 5636 Colloquium in U.S. Environmental History (3 credit hours)
- AMH 5925 Colloquium in U.S. Military History (3 credit hours)
- AMH 6939 Seminar in U.S. History (3 credit hours)
- LAH 5920 Colloquium in Latin American History (3 credit hours)
- LAH 6936 Seminar in Latin American History (3 credit hours)

Elective Courses—6 Credit Hours

Students choose 6 hours of electives in the Eastern Hemisphere field, from the following:

Eastern Hemisphere Courses: African, Asian and Middle Eastern, or European

- AFH 5259 Colloquium in African History (3 credit hours)
- AFH 5806 The Historiography of Slavery in Africa (3 credit hours)
- ASH 5229 History of the Middle East (3 credit hours)
- ASH 5408 Colloquium in Modern China (3 credit hours)
- ASH 5485 U.S. China Relations (3 credit hours)
- ASH 5925 Colloquium in South Asian History (3 credit hours)
- ASH 6936 Seminar in U.S.-China Relations (3 credit hours)
- EUH 5419 Colloquium in Roman History (3 credit hours)
- EUH 5459 Colloquium in French History (3 credit hours)
- EUH 5546 Colloquium: British History (3 credit hours)
- EUH 5579 Colloquium in Soviet Russia (3 credit hours)
- EUH 5595 Colloquium in Czarist Russia (3 credit hours)
- EUH 5905 European Imperialism (3 credit hours)
- EUH 5925 Colloquium in Medieval Europe (3 credit hours)
- EUH 6939 Seminar in European History (3 credit hours)

Thesis—6 Credit Hours

- HIS 6971 Thesis (6 credit hours minimum)

The culminating event of the program is a minimum of six credit hours at the 6000-level developing and sustaining a historical argument in writing according to the accepted professional and ethical standards of the discipline.

Thesis or Project Defense

The final step in completing the thesis requirement is a one-hour oral defense before the thesis committee.

Comprehensive Examination

Each candidate for the Master of Arts in History must pass written examinations in two fields upon conclusion of regular course work and before beginning a thesis. These examinations must be taken and passed as part of the requirements for the capstone course. Students are provided two attempts at successfully passing the examinations. Each student will also submit a thesis prospectus and preliminary bibliography, which the three members of the student's thesis committee judge acceptable as the preliminary step to beginning the thesis. An oral defense of the written exams and the thesis prospectus and bibliography is also a requirement of the capstone course.

Foreign Language Competency

Students will also be expected to demonstrate a reading competency in one foreign language. The foreign language examination must be completed one semester prior to the thesis defense.

APPLICATION REQUIREMENTS

In addition to meeting general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a bachelor's degree in history or an equivalent, a statement of research interests and goals, and three letters of recommendation; applicants from countries where English is not the official language or applicants with degrees from non-U.S. accredited institutions must achieve a minimum score of 233 on the TOEFL.

In addition to the general UCF graduate application requirements, applicants must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in History (or an equivalent).
- A 3.25 GPA in all upper division history courses taken as an undergraduate student.
- Official, competitive GRE score taken in the last five years.
- A written statement describing personal goals and objectives in seeking a graduate degree in history.
- Three letters of recommendation from former professors who can address applicant's ability to undertake graduate-level history courses.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

Applicants who hold an undergraduate degree in History but do not have a GPA of 3.0 in all work attempted while registered as an undergraduate student, or while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours), or a 3.25 GPA in their history courses, or do not have a competitive score on the combined verbal-quantitative sections and/or the individual verbal or analytical writing sections of the GRE may take up to 9 hours of graduate courses as non-degree-seeking students. To be admitted into the graduate program, however, they must earn a 3.3 GPA or higher in the graduate-level history courses they take under this status.

Generally, applicants who meet all of the above requirements but do not have an undergraduate degree in History must complete 12 hours of history course work at the 3000 and 4000 level, with a 3.25 GPA in these courses, before entering the graduate program. These courses will not count toward the graduate degree. The History Department Graduate Committee can waive this requirement, in whole or in part, when applicants present evidence that they are capable of successfully completing graduate history courses.

If, in addition, applicants do not meet one of the other requirements for entry, such as a GPA of 3.0 in all work attempted while registered as an undergraduate student, or while registered as an upper-division undergraduate student (normally based on the last sixty attempted semester hours) or a competitive score on the combined verbal/quantitative and/or the individual verbal or analytical writing sections of the GRE, they must complete 12 hours of course work at the 3000 and 4000 level with GPA of 3.5 before they can be admitted to the graduate program.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Public History	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 1	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Amelia Lyons PhD
Associate Professor
Program Director
amelia.lyons@ucf.edu
407-823-2225
Colbourn Hall 534D

Hospitality and Tourism Management MS

- MD

PROGRAM DESCRIPTION

The Master of Science in Hospitality and Tourism Management enables students to build on their strengths and interests, broadens their knowledge of the industry; sharpens their management skills; and incorporates their professional and extracurricular experiences.

The Master of Science in Hospitality and Tourism Management enables students to build on their strengths and interests, broadens their knowledge of the industry; sharpens their management skills; and incorporates their professional and extracurricular experiences. The Rosen College of Hospitality Management candidates are especially attractive hires for hospitality and tourism organizations around the globe.

The typical Hospitality and Tourism Management MS candidate:

- Is a professional working in a position related to hospitality, tourism or events.
- Holds an undergraduate degree in hospitality, business management, or a related discipline.
- Understands that advanced educational training is required to be competitive in a thriving hospitality, tourism and event industry.

The program offers thesis and nonthesis options. The thesis option is intended for students who are interested in the scientific study of the various aspects of the hospitality and tourism industry and who may anticipate pursuing a doctoral degree or a professional research position. The nonthesis option is intended for students who anticipate a leadership position in the hospitality and tourism industry. The emphasis of the nonthesis option is on course work, practical experience and real-world insight.

The Rosen College of Hospitality Management aims to provide students with an outstanding graduate hospitality management educational experience, and serve other stakeholders with continuing education, research, and service. The College is committed to UCF goals by providing intellectual leadership through quality hospitality education, international prominence by means of educational and research programs, promotion of a global perspective, nurturing inclusiveness and diversity, and partnerships with local, national, and international hospitality and tourism constituencies.

CURRICULUM

The Hospitality and Tourism Management MS program requires a minimum of 33 credit hours for students who choose the thesis option or nonthesis option. For both options, 18 credit hours are required core courses. Students in the thesis option must also take nine credit hours of a restricted elective and six credit hours of thesis work. Students in the nonthesis option must take 15 credit hours of electives. Irrespective of which option you decide upon, you can complete your degree either fully online or face-to-face, or customize it through a mix of both to fit your schedule and budget.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Candidates for the MS degree are constantly challenged with numerous requirements to engage in independent learning throughout the program of study through special projects and papers. For example, the capstone course, HMG 6296 Hospitality/Tourism Strategic Issues requires a critical strategic audit project and a reflective paper. The project demonstrates a range of cross-discipline knowledge and analytical skills to perform an executive level analysis of an enterprise. The reflective paper has guiding questions that are subjective in nature and successful completion requires a thorough, insightful, and well articulated document that describes the learner's value proposition to industry and society.

Required Courses—18 Credit Hours

- HMG 6245 Managing Hospitality and Guest Services Organizations (3 credit hours)
- HMG 6477 Financial Analysis of Hospitality Enterprises (3 credit hours)
- HMG 6596 Strategic Marketing in Hospitality and Tourism (3 credit hours)
- HMG 6228 Critical Issues in Hospitality Human Resources (3 credit hours)
- HMG 6585 Data Analysis in Hospitality and Tourism Research (3 credit hours)
- HMG 6296 Hospitality/Tourism Strategic Issues (3 credit hours) (Capstone course)

Thesis Option—15 Credit Hours

- HMG 6586 Research Methods in Hospitality and Tourism (3 credit hours)
- HMG 6971 Thesis (research for thesis option only; 6 credit hours)
- Electives chosen from the list below (6 credit hours)

An appropriate culminating academic experience is required of all master's degree candidates. For those students in the thesis option, a thesis defense is required. Thesis defenses will be approved by a majority vote of the thesis advisory committee. Further approval is required by the Dean of the Rosen College of Hospitality Management and the UCF College of Graduate Studies before final acceptance of the thesis in fulfilling degree requirements.

Nonthesis Option—15 Credit Hours

- Electives chosen from the list below (15 credit hours)

An appropriate culminating academic experience is required of all master's degree candidates. For students in the nonthesis option, an appropriate culminating academic experience is the successful completion of HMG 6296 Hospitality/Tourism Strategic Issues, a required course in the curriculum that is designated as a capstone course. This capstone course acquaints students with the principles of strategic decision-making in various sectors of the tourism and hospitality industry. Students are required to apply skills, knowledge, and understanding in order to identify areas of concern encountered by managers responsible for formulating and implementing operational strategies.

Elective Courses

A maximum of three credit hours of restricted elective may be taken as an independent study.

- FSS 6365 Management of Food Service Operations (3 credit hours)
- HMG 6251 The Management of Lodging Operations (3 credit hours)
- HMG 6710 International Tourism Management (3 credit hours)

- HMG 6586 Research Methods in Hospitality and Tourism (3 credit hours)
- HMG 6227 Advanced Training and Development in the Hospitality Industry (3 credit hours)
- HMG 6446 Hospitality/Tourism Information Technology (3 credit hours)
- HMG 6529 Vacation Ownership Resort Sales Management (3 credit hours)
- HMG 6566 Principles of Destination Marketing and Management (3 credit hours)
- HMG 6533 Hospitality/Tourism Industry Brand Management (3 credit hours)
- HMG 6476 Feasibility Studies for the Hospitality/Tourism Enterprises (3 credit hours)
- HMG 6267 Case Studies in Restaurant Management (3 credit hours)
- HMG 6347 Advanced Vacation Ownership Resort Planning (3 credit hours)
- HMG 6528 Convention and Conference Sales and Services (3 credit hours)
- HMG 6738 Tourism Industry Analysis (3 credit hours)
- HMG 6756 Mega-Events (3 credit hours)
- HMG 6797 Event Administration (3 credit hours)

INDEPENDENT LEARNING

For students in the nonthesis option, an appropriate culminating academic experience is the successful completion of HMG 6296 Hospitality/Tourism Strategic Issues, a required course in the curriculum that is designated as a capstone course. This capstone course acquaints students with the principles of strategic decision-making in various sectors of the tourism and hospitality industry. Students are required to apply skills, knowledge, and understanding in order to identify areas of concern encountered by managers responsible for formulating and implementing operational strategies.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants need to provide a goal statement, a résumé, and three letters of recommendation. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only. The GRE/GMAT is not required, however, the Admissions Committee may ask for the GRE/GMAT to strengthen a candidate's application package.

Admission is restricted each semester to individuals showing high promise of success in postgraduate studies. In addition to the requirements noted below, other indicators of promise include the applicant's extracurricular activities, work experience, job responsibilities, and leadership experience, which will be considered in making admissions decisions.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Goal statement (this is your opportunity to outline in 500 words why you wish to join the program, what you think you will contribute to the program, and how you feel the program will enhance you both personally and professionally)
- Résumé.
- Three letters of recommendation.
- The GRE/GMAT is not required, however, the Admissions Committee may ask for the GRE/GMAT to strengthen a candidate's application package.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services

(WES) or Josef Silny and Associates, Inc. only.

Prerequisites

For students with undergraduate majors in Hospitality Management or Business Administration, there will be no undergraduate course prerequisites, provided they have successfully completed an undergraduate course in statistics with a grade of "C" or higher.

For industry professionals with an undergraduate degree in a discipline other than Hospitality Management or Business Administration, the following three undergraduate courses "may" be required to be completed with a grade of "B" or higher within the first year of course work in the program (decisions are made at the discretion of the Graduate Recruitment Team).

- HFT 3431 Hospitality Industry Managerial Accounting
- HFT 3540 Guest Services Management
- HFT 4295 Strategic Management in Hospitality Industry

These students would also have to have successfully completed an undergraduate course in statistics with a grade of "C" or higher within the first year of course work in the program.

For applicants with undergraduate degrees in disciplines other than Hospitality Management or Business Administration and no significant hospitality industry experience, the following five undergraduate courses "may" be required to be completed with a grade of "B" or higher within the first year of course work in the program (decisions are made at the discretion of the Graduate Recruitment Team):

- HFT 1000 Introduction to the Hospitality and Tourism Industry
- HFT 3540 Guest Services Management
- HFT 4295 Strategic Management in Hospitality Industry
- HFT 2401 Hospitality Industry Financial Accounting
- HFT 3431 Hospitality Industry Managerial Accounting

These students would also have successfully completed an undergraduate course in statistics with a grade of "C" or higher within the first year of course work in the program.

Application Deadlines

Hospitality and Tourism Management MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Alan Fyall PhD
Professor
Program Director
alan.fyall@ucf.edu
407-903-8808
CLI 271

Hospitality and Tourism Management MS

MD

TRACK DESCRIPTION

The Master of Science in Hospitality and Tourism Management enables students to build on their strengths and interests; broadens their knowledge of the industry; sharpens their management skills; and incorporates their professional and extracurriculuar experiences.

Students enrolled in the MD track will witness and experience adoptable elements to effect a cultural change in the practice of medicine vis-a-vis the concept of hospitality and service-oriented business models.

CURRICULUM

The Hospitality and Tourism Management MS program requires a minimum of 33 credit hours for students who choose the MD track. This restricted admission MD track has 18 credit hours of required core courses and a minimum of 15 credit hours of restricted electives.

Candidates for the MS degree are constantly challenged with numerous requirements to engage in independent learning during the program of study through special projects and papers. For example, the capstone course, HMG 6296 Hospitality/Tourism Strategic Issues, requires a critical strategic audit project and a reflective paper. The project demonstrates a range of cross-discipline knowledge and analytical skills to perform an executive-level analysis of an enterprise. The reflective paper has guiding questions that are subjective in nature and successful completion requires a thorough, insightful, and well-articulated document that describes the learner's value proposition to industry and society.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

For students with undergraduate majors in Hospitality Management or Business Administration, there will be no undergraduate course prerequisites, provided they have successfully completed an undergraduate course in statistics with a grade of "C" or higher.

For students with an undergraduate degree in a discipline other than Hospitality Management or Business Administration, the following three undergraduate courses "may" be required to be completed with a grade of "B" or higher within the first year of course work in the program (decisions are made at the discretion of the Graduate Recruitment Team):

- HFT 3431 Hospitality Industry Managerial Accounting (3 credit hours)
- HFT 3540 Guest Services Management I (3 credit hours)
- HFT 4295 Leadership and Strategic Management in Hospitality Industry (3 credit hours)

These students would also have to have successfully completed an undergraduate course in statistics with a grade of "C" or higher within the first year of course work in the program.

Required Courses—18 Credit Hours

- HMG 6228 Critical Issues in Hospitality Human Resources (3 credit hours)
- HMG 6245 Managing Hospitality and Guest Services Organizations (3 credit hours)
- HMG 6477 Financial Analysis of Hospitality Enterprises (3 credit hours)
- HMG 6596 Strategic Marketing in Hospitality and Tourism (3 credit hours)
- HMG 6585 Data Analysis in Hospitality (3 credit hours)
- HMG 6296 Hospitality/Tourism Strategic Issues (3 credit hours) (Capstone Course)

Elective Courses—15 Credit Hours

Students in the MD track will take an additional 15 credit hours from the list of electives.

- FSS 6365 Management of Food Service Operations (3 credit hours)
- HMG 6251 Management of Lodging Operations (3 credit hours)
- HMG 6710 International Tourism Management (3 credit hours)
- HMG 6586 Research Methods in Hospitality and Tourism (3 credit hours)
- HMG 6227 Advanced Training and Development in the Hospitality Industry (3 credit hours)
- HMG 6446 Hospitality/Tourism Information Technology (3 credit hours)
- HMG 6529 Vacation Ownership Resort Sales Management (3 credit hours)
- HMG 6566 Principles of Destination Marketing and Management (3 credit hours)
- HMG 6533 Hospitality/Tourism Industry Brand Management (3 credit hours)
- HMG 6476 Feasibility Studies for the Hospitality/Tourism Enterprises (3 credit hours)
- HMG 6267 Case Studies in Restaurant Management (3 credit hours)
- HMG 6347 Advanced Vacation Ownership Resort Planning (3 credit hours)
- HMG 6528 Convention and Conference Sales and Services (3 credit hours)
- HMG 6738 Tourism Industry Analysis (3 credit hours)
- HMG 6756 Mega-Events (3 credit hours)
- HMG 6797 Event Administration (3 credit hours)
- BMS 6050 Psychosocial Issues in Healthcare (4 credit hours)
- BMS 6911 Focused Inquiry and Research Experience II (5 credit hours)

INDEPENDENT LEARNING

Candidates for the MS degree are constantly challenged with numerous requirements to engage in independent learning during the program of study through special projects and papers.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Admission is restricted each semester to individuals showing high promise of success in postgraduate studies. In addition to the requirements noted below, other indicators of promise include the applicant's extracurricular activities, work experience, job responsibilities, and leadership experience, which will be considered in making admissions decisions.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Goal statement.
- Résumé.
- Three letters of recommendation.
- The GRE/GMAT is not required, however, the Admissions Committee may ask for the GRE/GMAT to strengthen a candidate's application package.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Prerequisites

For students with undergraduate majors in Hospitality Management or Business Administration, there will be no undergraduate course prerequisites, provided they have successfully completed an undergraduate course in statistics with a grade of "C" or higher.

UCF MD applicants with an undergraduate degree in a discipline other than Hospitality Management or Business Administration, the following three undergraduate courses "may" be required to complete with a grade of "B" or higher within the first year of course work in the program (decisions are made at the discretion of the Graduate Recruitment Team):

- HFT 3431 Hospitality Industry Managerial Accounting
- HFT 3540 Guest Services Management
- HFT 4295 Strategic Management in Hospitality Industry

These students would also have to have successfully completed an undergraduate course in statistics with a grade of "C" or higher within the first year of course work in the program.

Application Deadlines

MD	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		
International Applicants				
International Transfer Applicants				

CONTACT INFO

Alan Fyall PhD
Professor
Program Director
alan.fyall@ucf.edu
407-903-8808
CLI 271

Industrial and Organizational Psychology MS

PROGRAM DESCRIPTION

The Master of Science in Industrial and Organizational Psychology program focuses on the application of psychological principles to organizations and emphasizes the major areas of selection and training of employees, applied theories of organizational behavior including models of motivation, job satisfaction, and productivity; test theory and construction; assessment center technology; statistics and experimental design and a variety of current topics.

The Master of Science in Industrial and Organizational Psychology program focuses on the application of psychological principles to organizations and emphasizes the major areas of selection and training of employees, applied theories of organizational behavior including models of motivation, job satisfaction, and productivity; test theory and construction; assessment center technology; statistics and experimental design and a variety of current topics. Industrial and Organizational Psychology graduates are involved in many issues of critical importance to society including fairness in the selection and treatment of employees, the creation of work environments that maximize the satisfaction and productivity of employees, and the study of technological influences on human performance.

CURRICULUM

The MS degree program in Industrial and Organizational Psychology is a four-semester program for full-time students. Both thesis and nonthesis options are offered and both consist of a minimum of 38 semester hours of work.

The MS degree is conferred when students have fulfilled the requirements of either the thesis or nonthesis option. No graduate credit will be given for any grade lower than a B- (2.75), but the grade will be counted toward the GPA. Courses may be retaken to achieve a better grade; however, the unsatisfactory grade will remain on the transcript since there is no grade forgiveness at the graduate level. In order to stay in good academic standing, students must maintain a minimum Graduate Status GPA of 3.0 in all coursework taken since entering graduate status and a 3.0 in their program of study.

Total Credit Hours Required:

38 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—32 Credit Hours

- INP 6058 Job Analysis and Performance Appraisal (3 credit hours)
- INP 6215 Assessment Centers and Leadership (3 credit hours)
- INP 6317 Work Motivation and Job Attitudes (3 credit hours)
- INP 6605 Training and Team Performance (3 credit hours)
- INP 6080 Ethical, Legal and Professional Issues in Industrial and Organizational Psychology (3 credit hours)
- PSY 6216C Research Methodology (4 credit hours)
- PSY 6308C Psychological Testing (4 credit hours)
- INP 6318 Recruitment, Placement and Selection (3 credit hours)
- INP 6072 Survey Research Methods and Program Evaluation in Industrial and Organizational Psychology (3 credit hours)
- SOP 5059 Advanced Social Psychology (3 credit hours)

Thesis Option—6 Credit Hours

- INP 6971 (6 credit hours)

Nonthesis Option—6 Credit Hours

Restricted Electives—6 Credit Hours

Students will consult with their adviser to choose two of the three courses from the following list.

- INP 6933 Seminar in Industrial and Organizational Psychology (3 credit hours)
- INP 6945C Industrial Psychology Practicum (3 credit hours)
- INP 6091 Industrial and Organizational Psychology Consulting Practice (3 credit hours)

Independent Learning

Students electing the nonthesis option are required to materially participate in the conduct of research under the supervision of a faculty adviser and in the preparation of a research report of sufficient quality to submit for publication or presentation at a professional conference. Students must provide their manuscript and documentation of submission to a journal, conference, or book editor via Webcourses@UCF.

Students in the nonthesis option may choose to complete a Practicum as part of their restricted electives. Practicum assignments serve to provide the student with experience in an applied setting while also aiding the organization in which the practicum occurs to meet some specific project need. Practicum possibilities generated by the Industrial and Organizational Psychology faculty and students may involve settings in private industry, federal, state, or local government educational institutions, or consulting firms. Practicum assignments involve one-semester commitments ranging from 12 to 15 hours per week on the part of the student. Depending on the nature of the assignment, this time may be distributed in a variety of ways among the organization, library, field work, etc. Practicum placements are initiated with a behavioral agreement between the graduate student and the organization. Behavioral agreements and performance objectives are jointly decided by the supervising faculty member, the organization representative, and the student. Full-time students are typically assigned practicum projects for the fall or spring terms of their second year.

Professional Requirement

Students electing the nonthesis option are required to produce a professional LinkedIn profile to showcase both their research and applied project work. A minimum of 3 applied projects must be included and can be generated from work completed in the Practicum, Consulting Practice, Seminar, or other applied practice classes (e.g., Assessment Centers and Leadership). Students are expected to document work from settings in private industry, federal, state, or local government, educational institutions, or consulting firms.
The LinkedIn profile will be evaluated jointly by the faculty adviser and the program director.

INDEPENDENT LEARNING

Students electing the thesis option are expected to conduct independent research. Students electing the nonthesis option are expected to materially participate in the conduct of research under the supervision of a faculty adviser and in the preparation of a research report.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, a bachelor's degree with a major in psychology or allied area, or a bachelor's degree with the completion of undergraduate courses in statistics and research methods and a preference of 12 credit hours in upper-division psychology courses, three letters of recommendation, résumé, and a goal statement.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.

- Official, competitive GRE score taken within the last five years.
- A bachelor's degree with a major in psychology or allied area, or a baccalaureate degree with the completion of undergraduate courses in statistics and research methods, and preference of four additional upper-division psychology courses (12 credit hours).
- Résumé.
- Goal statement.
- Three letters of recommendation, with at least two furnished by college or university professors who are acquainted with the applicant.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Acceptance decisions are made only in the spring semester for admission in the fall of each year.

Application Deadlines

Industrial and Organizational Psychology MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jan 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Dani Draper
Program Staff
danielle.draper@ucf.edu
407-823-2458
PSY 301G

Industrial Engineering MS

- Accelerated BS to MS
- Healthcare Systems Engineering

PROGRAM DESCRIPTION

The Master of Science programs in Industrial Engineering are designed to produce highly skilled graduates who are prepared to be industrial engineers, engineering managers or technical professionals, or leaders for the global economy, as well as preparing them for further graduate work or independent research.

Industrial Engineering, in its broad nature, focuses on the design and improvement of systems, products and processes. A total systems approach is used to optimize the various aspects of operations in both manufacturing and service industries. Industrial engineers use many analytical approaches to improve productivity, safety, and quality of working life while reducing operating costs.

The Industrial Engineering programs are structured to support the emergence of Central Florida as a national center of high technology as well as supporting the diverse service industries in the region and throughout the nation.

In the Industrial Engineering MS programs, students are able to individually craft their programs of study and select their courses to focus in one or more of the following research areas.

Human Systems Engineering/Ergonomics

As technology has become more sophisticated, the need to design for the human user has become more difficult, yet even more important. Human engineering and ergonomics assist in ensuring that as technology advances, the abilities, limitations, and needs of humans are considered in the system design. This not only supports the needs of the user, it also optimizes the efficiency and usability of the system designed. Traditionally, ergonomics has been associated with biomechanical issues and work measurement and performance issues in physical system design, as well as occupational and industrial safety. The broader focus of human engineering encompasses those issues as well as incorporating the reaction and effectiveness of human interaction with systems, both physical systems and virtual systems such as computer-based models.

Research in the Human Systems Engineering and Ergonomics area provides students with the necessary knowledge in human engineering and ergonomics to effectively design tasks, industrial systems, and work environments that maximize human performance, safety, and overall productivity.

Interactive Simulation and Training Systems

The Interactive Simulation and Training Systems research within the Industrial Engineering MS program focuses on providing a fundamental understanding of significant topics relative to simulation systems and the requirements, design, development, and use of such systems for knowledge transfer in the technical environment. Courses in this area address the evolving and multiple discipline application of interactive simulation by providing a wealth of electives to support development of individual student interests and talents. In conjunction with UCF's Institute for Simulation and Training, industrial organizations involved in simulation in the Central Florida region, military organizations, and other governmental organizations, ISTS research in the MS program provides exposure to both military and commercial interactive simulation and training systems.

The emphasis is on the application and development of interactive simulation and training systems to meet various requirements including, but not limited to: simulators, skill trainers, organizational learning systems, computer and web-based interactive simulation systems and other novel interactive simulation efforts. Courses in the interactive simulation and training systems area prepare individuals with an undergraduate degree in engineering, science, education, psychology, mathematics or other related disciplines for careers in simulation, focusing particularly on the interactive simulation and training systems industries.

Operations Research

The Operations Research courses in the Industrial Engineering MS program uses mathematics and computer-based systems to model operational processes and decisions in order to develop and evaluate alternatives that will lead to gains in efficiency and effectiveness. Drawing on probability, statistics, simulation, optimization, and stochastic processes, Operations Research provides many of the analytic tools used by industrial engineers as well as by other analysts to improve processes, decision-making, and management by individuals and organizations. Research in this area is ideal for students who have an undergraduate degree in engineering, mathematics, or science. The knowledge in these courses build on an undergraduate Engineering, Mathematics, or Science degree to develop a strong modeling and analytical capability to improve processes and decision-making.

Quality Systems Engineering

The Quality Systems Engineering research in the Industrial Engineering MS program focuses on providing the knowledge for improving product and process quality in manufacturing and service industries. Quality Systems Engineering provides both the quantitative tools for measuring quality and the managerial focus and organizational insight required to implement effective continuous improvement programs and incorporate the voice of the customer. The Quality Systems Engineering courses builds on an undergraduate degree in industrial engineering or a closely related discipline to provide the necessary knowledge to plan, control, and improve the product assurance function in government, military, service, or manufacturing organizations.

Simulation Modeling and Analysis

The Simulation Modeling and Analysis research and studies in the Industrial Engineering MS program focus on providing a fundamental understanding of the functional and technical design requirements for simulation in manufacturing and service industries. Research in this area is based on a systems modeling paradigm and provides coding and development capability in the context of a broader systems framework. Significant exposure to design and analysis aspects is a core element of the track. The Simulation Modeling and Analysis research and coursework prepare individuals with an undergraduate degree in Engineering, Science, Mathematics, or a closely related discipline for careers in simulation, focusing particularly on using simulation as an analysis and design tool for the manufacturing and service industries.

Systems Engineering

Intelligence is being infused into everyday systems, processes and infrastructure that enable physical goods to be developed, manufactured, bought and sold. These same systems also facilitate the movement and delivery of global products and services that support worldwide markets such as finance, energy resources and healthcare systems.

With these technological advancements, comes a new level of complexity as organizations struggle to integrate systems, processes and data feeds. As a result, the demand for systems engineering and related skills is expected to grow significantly.

Systems engineers design and implement computer systems, software and networks, including defining complex system requirements, and determining system specifications, processes and working parameters.

The Systems Engineering studies and research in the Industrial Engineering MS program are intended for individuals of all engineering disciplines. Research and coursework focus on a systems view of engineering problems related to the management of complex industrial, military, government, and social systems.

CURRICULUM

This program can be taken entirely through the Center for Online and Virtual Education (COVE), which provides video-streamed versions of classes over the Internet. More information about this program can be found at http://www.cecs.ucf.edu/COVE/ or (407) 823-3814.

The Industrial Engineering MS program offers both thesis and nonthesis options with each requiring 30 credit hours of courses. The program is flexible to enable students to model their plan of study to suit their needs and future work or career goals. All students must develop a plan of study with the graduate program director that meets with departmental approval. At least one-half of the courses (including thesis hours) required in the master's program of study must be at the 6000 level or higher. A cumulative grade-point average of B (3.0) must be maintained in the entire program of study.

Students on assistantships must take 9 credit hours per semester (Fall, Spring) to satisfy the university's requirement for full-time status. Most students working full time take 6 credit hours per semester. At that rate, the program can be completed in 6 semesters or less. However, students with more time available and with an early start on a thesis, if applicable, can finish the program in 3 semesters.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

The Industrial Engineering MS program requires an undergraduate degree in engineering, mathematics, computer science, statistics, physics, quantitative management or similar field.

Outstanding students with degrees in other disciplines such as business, economics or computer/information sciences may also be considered on a case-by-case basis, provided they have significant work experience and/or very high academic standing.

Regardless of the undergraduate degree, all applicants must have completed the following prerequisites:

- Mathematics through Calculus II (MAC 2312 or equivalent)
- An undergraduate course in engineering probability and statistics.
- In addition, they are expected to be familiar with at least one programming language (such as C, FORTRAN, Java, Visual BASIC, C++, etc.) and common computer skills and tools such as word processors and spreadsheets.

Required Courses—12 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- ESI 6551 Systems Architecting (3 credit hours)

Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of electives after consultation with their adviser.

Thesis Option—6 Credit Hours

The thesis option requires 6 credit hours of thesis. Thesis students must complete an independent research study and write and successfully defend a thesis according to program guidelines.

- EIN 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website (http://www.cecs.ucf.edu/graddefense/) and on the College of Graduate Studies Events Calendar at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

- EIN 6950 Capstone Course in Industrial and Systems Engineering (3 credit hours)
- Elective course (3 credit hours)

The nonthesis option requires a capstone course and an additional nonrestricted elective course that supports the student's area of research and study interests. The capstone course should be completed toward the end of the student's graduate plan of study. As part of the requirements of this course, students will complete an independent capstone project on a topic relevant to the industrial and systems engineering field and approved by the instructor. Students are expected to use and leverage knowledge obtained in the program to complete the project. This course serves as the culminating experience for the students and shows their engagement in independent learning.

IEMS Electives

The program requirements are flexible enough to allow the students to tailor the coursework according to their desired educational and career goals. With the approval of their adviser and/or the graduate program director, students may select from the following groups of courses to satisfy the needs of their research goals or career objectives. To assist the students in achieving these goals and objectives, courses are grouped below to suggest focus areas, only as a guide to assist in advising and course selection. They are not intended to restrict elective choices among specialization areas as the intent of the program is to help graduate students maintain an integrated approach to their studies. The listing of these courses does not guarantee that they will be offered by the department in a particular year or semester.

In addition to the courses listed below, students may be allowed to take courses from the following disciplines at UCF, with the approval of the graduate program director, as an elective in their graduate program of study:

- Other Engineering programs
- Computer Science
- Mathematics
- Statistics
- Business Administration or Management

Human Systems Engineering/Ergonomics

- EIN 5248C Ergonomics (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 6270C Work Physiology (3 credit hours)
- EIN 6258 Human-Computer Interaction (3 credit hours)
- EIN 6279C Biomechanics (3 credit hours)
- EIN 6935 Advanced Ergonomics Topics (3 credit hours)
- EIN 6271 Human Reliability (3 credit hours)

Quality and Production Systems

- ESI 6225 Quality Design and Control (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- EIN 5392C Manufacturing Systems Engineering (3 credit hours)
- EIN 6336 Production and Inventory Control (3 credit hours)
- EIN 6425 Scheduling and Sequencing (3 credit hours)
- EIN 5356 Cost Engineering (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

Management Systems

- EIN 6182 Engineering Management (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 6370 Innovation in Engineering Design (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 5108 The Environment of Technical Organizations (3 credit hours)

Simulation, Optimization and Modeling

- ESI 6336 Queuing Systems (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)
- ESI 6418 Linear Programming and Extensions (3 credit hours)
- ESI 6532 Object-Oriented Simulation (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6936 Seminar in Advanced Industrial Engineering (3 credit hours)
- ESI 5419C Engineering Applications of Linear and Nonlinear Optimization (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)

Systems Engineering

- ESI 6358 Decision Analysis (3 credit hours)
- ESI 5359 Risk Assessment and Management (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- EIN 5346 Engineering Logistics (3 credit hours)
- ESI 6891 IEMS Research Methods (3 credit hours)

Equipment Fee

Full-time students in the Industrial Engineering MSIE program pay a $58 equipment fee each semester that they are enrolled. Part-time students pay $29 each semester that they are enrolled.

INDEPENDENT LEARNING

The Independent Learning requirement is met by successful completion of a thesis or the capstone course.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor's degree in Electrical Engineering or a related discipline, a résumé, a statement of educational, research, and professional career objectives, and two letters of recommendation.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway. Students with undergraduate degrees outside of industrial engineering may be required to take additional prerequisites.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vita
- Goal statement
    - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Master's degree in Industrial Engineering. Future educational and career goals after the completion of the applicant's master study should be discussed.
    - If the applicant is interested in completing a Master thesis, then the applicant must clearly describe the particular area of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential thesis advisor.
    - The goal statement should between 500 and 1,000 words.
- Two letters of recommendation

- The letters of recommendation should be from faculty members, university administrators and employers with a supervisory role of the applicant. The letters, which must be current to the application and must not be for another degree program, should address the educational and career goals of applicant. The letter writers should also know the applicant well enough to discuss the applicant's capacity to perform, excel and succeed in a graduate program. Letters for Master's thesis students must discuss the applicant's ability to perform graduate-level research.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Application Deadlines

Industrial Engineering MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Ahmad Elshennawy PhD
Professor
Program Director
ahmade@ucf.edu
407-823-2204
Engineering 2, Room 312

Industrial Engineering MS

Accelerated BS to MS

TRACK DESCRIPTION

The accelerated undergraduate/graduate program in Industrial Engineering allows highly qualified undergraduate majors in Industrial Engineering to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate program. Participation will enable completion of the Bachelor of Science and Master of Science degrees in Industrial Engineering in five instead of six years for students enrolled in full-time course work.

Industrial Engineering focuses on the design and improvement of systems, products, and processes. A total systems approach is used to optimize the various aspects of operations in both manufacturing and service industries. Industrial engineers use many analytical approaches to improve productivity, safety, and quality of working life while reducing operating costs.

The Industrial Engineering graduate programs are structured to support the emergence of Central Florida as a national center of high technology as well as supporting the diverse service industries in the region and throughout the nation.

Additional information can be found at www.iems.ucf.edu.

CURRICULUM

The BSIE is awarded after fulfilling all university requirements including completing 128 credit hours of course work and 71 credit hours of engineering courses. The MSIE is awarded upon completion of the master's program. Courses designated in General Education Program and Common Program Prerequisites are usually completed in the first 60 hours (see engineering major requirements in the Undergraduate Catalog).

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Up to 12 credit hours of approved 5000-level courses with grades "B" (3.0) or better may be counted toward both the BS and MS degrees. Additional notes on the Accelerated Undergraduate and Graduate Program in Industrial Engineering are as follows:

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a "B" (3.0) in each undergraduate and graduate engineering course for them to be counted toward the major.

Undergraduate Requirements

Please see the current edition of the Undergraduate Catalog or the academics section of the College of Engineering and Computer Science website, link given above, for additional information about this program

Graduate Requirements

Please see Industrial Engineering MSIE graduate program for additional requirements.

Equipment Fee

Students in the Industrial Engineering MS program pay a $90 equipment fee each semester that they are enrolled. For part-time students, the equipment fee is $45 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis. Nonthesis students will complete a comprehensive exam, as specified in the Industrial Engineering MS program requirements.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor's degree in Engineering or a related discipline, a résumé, a statement of educational, research, and professional career objectives, and two letters of recommendation.

The Accelerated BS to MS program in Industrial Engineering allows highly qualified University of Central Florida undergraduate majors in Industrial Engineering to begin taking graduate level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to MSIE. Additional information about this track may be located at: http://www.cecs.ucf.edu/current-students/bs-ms-program.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Industrial Engineering or other engineering ONLY.
- Two letters of recommendation from two individual who are familiar with the applicant's capabilities to enter and succeed into his/her graduate studies and to perform graduate research.
- Curriculum Vitae/resume.
- Statement of educational, research, and professional career objectives. The statement should explain the applicant's future career and educational goals, reasons behind seeking the degree, and why he/she believes that this degree best suits their interests.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Application Deadlines

Accelerated BS to MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Ahmad Elshennawy PhD
Professor
Program Director
ahmade@ucf.edu
407-823-2204
Engineering 2, Room 312

Industrial Engineering MS

Healthcare Systems Engineering

TRACK DESCRIPTION

The Healthcare Systems Engineering track in the Industrial Engineering MS is a completely online program and focuses on applications of systems engineering that enable effective decision-making and successful project delivery and system redesign in healthcare organizations. This unique program is offered in response to the growing needs of the healthcare industry.

The program is tailored to the needs of professionals working in the healthcare industry. The program requires applicants to have an undergraduate degree in engineering or a closely related discipline.

The Healthcare Systems Engineering (HCSE) track is offered to meet the growing needs of the healthcare industry in central Florida and nationwide. This is a fully online degree program that is designed to be completed within two years of coursework.

CURRICULUM

The Healthcare Systems Engineering (HCSE) track requires 30 credit hours of courses beyond the bachelor's degree. This program offers only the nonthesis option.

This web-based online master's program in Healthcare Systems Engineering is designed to attract students with a variety of educational backgrounds and keen interest in working in the healthcare field. It provides healthcare practitioners, and individuals with an engineering background who are interested in joining the rapidly expanding field of healthcare systems, with models and tools such as quantitative analysis, systems modeling and computer simulation for effective decision-making in healthcare organizations and systems.

For information about the program, please contact IEMS Graduate Director Dr. Ahmad Elshennawy (ahmad.elshennawy@ucf.edu) or Dr. Richard Biehl (Richard.Biehl@ucf.edu).

Translating a specific design into an organizational or physical reality in the most effective manner, and with the highest quality, is the focus of the industrial Engineering and Management Systems field. This program is tailored to meet the needs of a broad range of working professionals interested in leading healthcare systems engineering and management activities. It is the first program of its kind, with no other university currently offering a similar program fully online.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

An undergraduate course in probability and statistics

Required Courses—30 Credit Hours

All of the following courses are required for completion of the Healthcare Systems Engineering program.

- HSC 6636 Issues and Trends in the Health Professions (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 6551 Systems Architecting (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 5359 Risk Assessment and Management (3 credit hours)
- EIN 5117 Management Information Systems (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 6609 Industrial Engineering Analytics for Healthcare (3 credit hours)
- EIN 5140 Project Engineering (Capstone) (3 credit hours)

Cost Per Credit Hour

For the Healthcare Systems Engineering track in the Industrial Engineering MS program, both for in-state and out-of-state, the cost per credit hour is $1,239.16.*

*Fee subject to change.

INDEPENDENT LEARNING

The Independent Learning requirement is met by successful completion of the research studies required in individual courses and EIN 5140 Project Engineering (Capstone). These research studies require that students integrate material from all the courses in their program.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor’s degree in Electrical Engineering or a related discipline, a résumé, a statement of educational, research, and professional career objectives, and two letters of recommendation.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vita
- Goal statement

    - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Master's degree in Industrial Engineering. Future educational and career goals after the completion of the applicant's master study should be discussed.
    - If the applicant is interested in completing a Master thesis, then the applicant must clearly describe the particular area of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential thesis advisor.
    - The goal statement should between 500 and 1,000 words.
- Two letters of recommendation
    - The letters of recommendation should be from faculty members, university administrators and employers with a supervisory role of the applicant. The letters, which must be current to the application and must not be for another degree program, should address the educational and career goals of applicant. The letter writers should also know the applicant well enough to discuss the applicant's capacity to perform, excel and succeed in a graduate program. Letters for Master's thesis students must discuss the applicant's ability to perform graduate-level research.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Application Deadlines

Healthcare Systems Engineering	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Ahmad Elshennawy PhD
Professor
Program Director
ahmade@ucf.edu
407-823-2204
Engineering 2, Room 312

Industrial Engineering MSIE

PROGRAM DESCRIPTION

The Department of Industrial Engineering and Management Systems offers a Master of Science in Industrial Engineering (MSIE) degree focusing on the design and improvement of systems, products, and processes. This degree is available to those applicants with a bachelor of science degree in Industrial Engineering (BSIE) or other Engineering degree ONLY.

A total systems approach is used to optimize the various aspects of operations in both manufacturing and service industries. Industrial engineers use many analytical approaches to improve productivity, safety, and quality of working life while reducing operating costs. The MSIE curriculum builds on an undergraduate engineering degree to develop a stronger systems focus and analytical capability.

The industrial engineering graduate programs are structured to support the emergence of Central Florida as a national center of high technology as well as supporting the diverse service industries in the region and throughout the nation.

Many of the graduate courses offered by the department or required in the MSIE program are offered through the Florida Engineering Educational Delivery System (FEEDS), which provides video-streamed versions of classes over the Internet.

CURRICULUM

This program can be taken entirely through the Center for Online and Virtual Education (COVE), which provides video-streamed versions of classes over the Internet. More information about this program can be found at http://www.cecs.ucf.edu/COVE/ or (407) 823-3814.

The Industrial Engineering MSIE degree requires an undergraduate degree in Industrial Engineering or any other Engineering degree. Students with undergraduate degrees outside of industrial engineering may be required to take additional prerequisites. The program offers both thesis and nonthesis options with each requiring 30 credit hours of courses. At least half of the regular coursework must be at the 6000 level. A cumulative grade-point average of B must be maintained in the entire program of study.

Thesis Option: The thesis option requires 12 credit hours of required courses, 12 credit hours of electives and 6 thesis credit hours. Students must also write and successfully defend a thesis.

Nonthesis Option: The nonthesis option requires 12 credit hours of required courses and 18 credit hours of electives. Research studies are required in one or more courses. The research study and report will focus on reviewing and analyzing contemporary research in the profession in order to help students acquire knowledge and skills pertaining to research-based best practices. In addition, students may engage in directed independent studies, directed research or a research report during their studies. A program of study must be developed with the graduate program director and meet with departmental approval. At least one-half of the credit hours (including thesis hours) required in a master's program of study must be at the 6000 level or higher. Students on assistantships must take 9 credit hours per semester to satisfy the university's requirement for full-time status. Most students working full time take 6 credit hours per semester. At that rate, the program can be completed in 6 semesters or less. However, students with more time available and with an early start on a thesis, if applicable, can finish the program in 3 semesters.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

Students with undergraduate degrees in industrial engineering or other engineering degrees are encouraged to apply for admission. Graduates from non-engineering curricula may apply to obtain the MS degree.

All applicants are expected to have completed the following prerequisites during their undergraduate engineering education:

- Computer programming capability. Proficiency with MS Office expected. C++, Visual BASIC, or Java recommended.
- Mathematics through Calculus II (MAC 2312 or equivalent)
- Undergraduate probability and statistics for engineers (STA 3032 or equivalent)

Required Courses—12 Credit Hours

- ESI 6551 Systems Architecting (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

Select one of the following courses:

- ESI 5306 Operations Research (3 credit hours)
- ESI 6418 Linear Programming and Extensions (3 credit hours)

Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of electives after consultation with their adviser.

Thesis Option—6 Credit Hours

The thesis option requires an additional 6 credit hours of thesis. Thesis students must complete an independent research project and write and successfully defend a thesis describing the project. Students may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

- EIN 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements are approved by the student's adviser and posted on the college's website (http://www.cecs.ucf.edu/graddefense/) and on the College of Graduate Studies Events Calendar at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

- EIN 6950 Capstone Course in Industrial and Systems Engineering (3 credit hours)
- Elective course (3 credit hours)

The nonthesis option requires a capstone course and an additional unrestricted elective course that supports the student's area of research and study interests. The capstone course should be completed toward the end of the student's graduate plan of study. As part of the requirements of this courses, students will complete an independent capstone project on a topic relevant to the industrial and systems engineering field and approved by the instructor. Students are expected to use and leverage knowledge obtained in the program to complete the project. This course serves as the culminating experience for students and shows their engagement in independent learning.

IEMS Electives

The program requirements are flexible enough to allow the students to tailor the coursework according to their desired educational and career goals. With the approval of their adviser and/or the graduate program director, students may select from the following groups of courses to satisfy the needs of their research goals or career objectives. To assist the students in achieving these goals and objectives, courses are grouped below to suggest focus areas, only as a guide to assist in advising and course selection. They are not intended to restrict elective choices among specialization areas as the intent of the program is to help graduate students maintain an integrated approach to their studies. The listing of these courses does not guarantee that they will be offered by the department in a particular year or semester.

In addition to the courses listed below, students may be allowed to take courses from the following disciplines at UCF, with the approval of the graduate program director, as an elective in their graduate program of study:

- Other Engineering programs
- Computer Science
- Mathematics
- Statistics
- Business Administration or Management

Human System Engineering/Ergonomics

- EIN 5248C Ergonomics (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 6270C Work Physiology (3 credit hours)
- EIN 6258 Human-Computer Interaction (3 credit hours)
- EIN 6279C Biomechanics (3 credit hours)
- EIN 6935 Advanced Ergonomics Topics (3 credit hours)

- EIN 6271 Human Reliability (3 credit hours)

Quality and Production Systems

- ESI 6225 Quality Design and Control (3 credit hours)
- EIN 5392C Manufacturing Systems Engineering (3 credit hours)
- EIN 6336 Production and Inventory Control (3 credit hours)
- EIN 6425 Scheduling and Sequencing (3 credit hours)
- EIN 5356 Cost Engineering (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours)

Management Systems

- EIN 6182 Engineering Management (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 6370 Innovation in Engineering Design (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 5108 The Environment of Technical Organizations (3 credit hours)

Simulation, Optimization and Modeling

- ESI 6336 Queuing Systems (3 credit hours)
- ESI 6532 Object-Oriented Simulation (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6936 Seminar in Advanced Industrial Engineering (3 credit hours)
- ESI 5419C Engineering Applications of Linear and Nonlinear Optimization (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)

Systems Engineering

- ESI 6358 Decision Analysis (3 credit hours)
- ESI 5359 Risk Assessment and Management (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- EIN 5346 Engineering Logistics (3 credit hours)
- ESI 6891 IEMS Research Methods (3 credit hours)

Equipment Fee

Full-time students in the Industrial Engineering MSIE program pay a $58 equipment fee each semester that they are enrolled. Part-time students pay $29 each semester that they are enrolled.

INDEPENDENT LEARNING

A research project serves as the independent learning experience for thesis students. Nonthesis students are required to complete the department's capstone course toward the end of their program.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor’s degree in Industrial Engineering or other Engineering degree, official transcripts, résumé, a statement of educational, research, and professional career objectives, and two letters of recommendation.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening submission (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vita
- Goal statement
    - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Master's degree in Industrial Engineering. Future educational and career goals after the completion of the applicant's master study should be discussed.
    - If the applicant is interested in completing a Master thesis, then the applicant must clearly describe the particular area of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential thesis advisor.
    - The goal statement should between 500 and 1,000 words.
- Two letters of recommendation
    - The letters of recommendation should be from faculty members, university administrators and employers with a supervisory role of the applicant. The letters, which must be current to the application and must not be for another degree program, should address the educational and career goals of applicant. The letter writers should also know the applicant well enough to discuss the applicant's capacity to perform, excel and succeed in a graduate program. Letters for Master's thesis students must discuss the applicant's ability to perform graduate-level research.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Application Deadlines

Industrial Engineering MSIE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Ahmad Elshennawy PhD
Professor
Program Director
ahmade@ucf.edu
407-823-2204
Engineering 2, Room 312

Instructional Design and Technology MA

- Educational Technology
- e-Learning
- Instructional Systems

PROGRAM DESCRIPTION

The Master of Arts in Instructional Design and Technology program is designed to meet the needs of working professionals in various settings. It enables candidates to complete courses in traditional, Web, and mixed mode (with one face-to-face meeting every other week). The program offers tracks in educational technology, instructional systems and e-learning, enabling candidates to pursue careers in business and industry, K-12 and higher education.

The Instructional Design and Technology MA program is designed to meet the needs of working professionals in various settings. It enables candidates to complete courses in traditional, Web, and mixed mode (with one face-to-face meeting every other week). The program offers tracks in educational technology, instructional systems and e-learning, enabling candidates to pursue careers in business and industry, K12 and higher education.

CURRICULUM

All three tracks of the Instructional Design and Technology MA require a minimum of 36 credit hours beyond the bachelor's degree. The Educational Technology MA curriculum includes 12 credit hours of instructional technology core courses, 15 credit hours of professional specialization, six credit hours of electives, and three credit hours of practicum. The Instructional Systems MA and the e-Learning MA curriculum include 12 credit hours of instructional technology core courses, 12 credit hours of professional specialization, 9 credit hours of electives, and three credit hours of practicum.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

Richard Hartshorne PhD
Associate Professor
Program Director
richard.hartshorne@ucf.edu
407-823-1861
ED 223-H

Instructional Design and Technology MA

Educational Technology

TRACK DESCRIPTION

The Educational Technology track is designed for classroom teachers who want to increase their technological skills and become highly skilled at successfully integrating technology into the curriculum as well as develop leadership skills necessary to become site-based technology coordinators in K-12 schools, colleges and universities.

The knowledge gained through the Educational Technology program allows candidates to seek new career paths in education. Graduates from this program have the skills to become computer teachers, instructors at the community and college and university level and instructional designers. The program does not lead to any current certification in Florida.

CURRICULUM

The Educational Technology track in the Instructional Design and Technology MA program requires a minimum of 36 credit hours beyond the bachelor's degree. The curriculum includes 12 credit hours of instructional technology core courses, 15 credit hours of professional specialization, six credit hours of electives, and three credit hours of practicum.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—27 Credit Hours

Core—12 Credit Hours

- EME 6055 Current Trends in Instructional Technology (3 credit hours)
- EME 6062 Research in Instructional Technology (3 credit hours)
- EDF 6432 Measurement and Evaluation or EDF 6401 Statistics for Educational Data (3 credit hours) or EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours) or EDF 6472 Data-Driven Decision-Making for Instruction (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)

Professional Specialization Courses—15 Credit Hours

- EME 6417 Interactive Online and Virtual Teaching Environments (3 credit hours) or EME 6226 Instructional Development and Evaluation (3 credit hours) or EME 6209 Multimedia Instructional Systems II (3 credit hours)
- EME 6053 Teaching and Learning with Emerging Technologies (3 credit hours)
- EME 6405 Adapting and Integrating Innovative Technologies in Education (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6602 Integration of Technology into the Learning Environment (3 credit hours)

Elective Courses—6 Credit Hours

Students must choose at least 6 credit hours of electives. Electives in current certification area, technology, or other as approved by adviser. Courses not listed below require adviser approval. All ENC courses require approval from English Department.

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours)

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6472 Data-Driven Decision-Making for Instruction (3 credit hours)
- EME 6209 Multimedia Instructional Systems II (3 credit hours)
- EME 6457 Distance Education: Technology Process Product (3 credit hours)
- EME 6607 Planned Change in Instructional Technology (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- IDS 6504 Adult Learning (3 credit hours)
- ENC 6216 Editing Professional Writing (3 credit hours)
- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 6261 Technical Writing, Theory and Practice (3 credit hours)
- ENC 6296 Computer Documentation (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours)
- EDF 6884 Education as a Cultural Process (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)
- EGI 6051 Understanding the Gifted/Talented Student (3 credit hours)
- ESE 6217 Curriculum Design (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)

Practicum—3 Credit Hours

Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

- EME 6940 Theory into Practice in Educational Technology (3 credit hours)

INDEPENDENT LEARNING

Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Educational Technology	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Richard Hartshorne PhD
Associate Professor
Program Director
richard.hartshorne@ucf.edu
407-823-1861
ED 223-H

Instructional Design and Technology MA

e-Learning

TRACK DESCRIPTION

The e-Learning track in the Instructional Design and Technology MA program is designed for educators in K-12 and higher education, trainers, and instructional designers.

The program focuses on teaching the design, delivery and evaluation of high-quality e-learning materials for inservice, preservice teachers and online trainers. The program focuses on the design, delivery and evaluation of high-quality e-learning materials that are used for both totally online and blended (hybrid) learning environments. Candidates gain employment in business and industry, K-12, and higher education as organizations across sectors work to optimize the use of telecommunication technologies to enhance individual and collaborative learning. The e-Learning program may be completed totally online or in mixed mode. For more information, visit education.ucf.edu/insttech/.

CURRICULUM

The Educational Technology track in the Instructional Design and Technology MA program requires a minimum of 36 credit hours beyond the bachelor's degree. The curriculum includes 12 credit hours of instructional technology core courses, 15 credit hours of professional specialization, six credit hours of electives, and three credit hours of practicum.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—27 Credit Hours

Core—12 Credit Hours

- EME 6055 Current Trends in Instructional Technology (3 credit hours)
- EME 6062 Research in Instructional Technology (3 credit hours)
- EDF 6432 Measurement and Evaluation or EDF 6401 Statistics for Educational Data (3 credit hours) or EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours) or EDF 6472 Data-Driven Decision-Making for Instruction (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)

Professional Specialization Courses—15 Credit Hours

- EME 6417 Interactive Online and Virtual Teaching Environments (3 credit hours) or EME 6226 Instructional Development and Evaluation (3 credit hours) or EME 6209 Multimedia Instructional Systems II (3 credit hours)
- EME 6053 Teaching and Learning with Emerging Technologies (3 credit hours)
- EME 6405 Adapting and Integrating Innovative Technologies in Education (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6602 Integration of Technology into the Learning Environment (3 credit hours)

Elective Courses—6 Credit Hours

Students must choose at least 6 credit hours of electives. Electives in current certification area, technology, or other as approved by adviser. Courses not listed below require adviser approval. All ENC courses require approval from English Department.

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours)

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6472 Data-Driven Decision-Making for Instruction (3 credit hours)
- EME 6209 Multimedia Instructional Systems II (3 credit hours)
- EME 6457 Distance Education: Technology Process Product (3 credit hours)
- EME 6607 Planned Change in Instructional Technology (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- IDS 6504 Adult Learning (3 credit hours)
- ENC 6216 Editing Professional Writing (3 credit hours)
- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 6261 Technical Writing, Theory and Practice (3 credit hours)
- ENC 6296 Computer Documentation (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours)
- EDF 6884 Education as a Cultural Process (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)
- EGI 6051 Understanding the Gifted/Talented Student (3 credit hours)
- ESE 6217 Curriculum Design (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)

Practicum—3 Credit Hours

Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

- EME 6940 Theory into Practice in Educational Technology (3 credit hours)

INDEPENDENT LEARNING

Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

e-Learning	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Richard Hartshorne PhD
Associate Professor
Program Director
richard.hartshorne@ucf.edu
407-823-1861
ED 223-H

Instructional Design and Technology MA

Instructional Systems

TRACK DESCRIPTION

The Instructional Systems track in the Instructional Design and Technology MA program is designed for prospective and practicing instructional designers, training specialists and training directors/managers in business, industry, government, or other settings where training, professional development and lifelong learning takes place.

Candidates develop expertise in how and why people learn, how to stimulate and facilitate learning, and in the use of alternative instructional delivery systems. Candidates analyze training requirements and design, develop, evaluate, and manage training and educational programs using of current and emerging technologies. The Instructional Systems program may be completed totally online or in mixed mode. For more information, visit education.ucf.edu/insttech/.

CURRICULUM

The Educational Technology track in the Instructional Design and Technology MA program requires a minimum of 36 credit hours beyond the bachelor's degree. The curriculum includes 12 credit hours of instructional technology core courses, 15 credit hours of professional specialization, six credit hours of electives, and three credit hours of practicum.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—27 Credit Hours

Core—12 Credit Hours

- EME 6055 Current Trends in Instructional Technology (3 credit hours)
- EME 6062 Research in Instructional Technology (3 credit hours)
- EDF 6432 Measurement and Evaluation or EDF 6401 Statistics for Educational Data (3 credit hours) or EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours) or EDF 6472 Data-Driven Decision-Making for Instruction (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)

Professional Specialization Courses—15 Credit Hours

- EME 6417 Interactive Online and Virtual Teaching Environments (3 credit hours) or EME 6226 Instructional Development and Evaluation (3 credit hours) or EME 6209 Multimedia Instructional Systems II (3 credit hours)
- EME 6053 Teaching and Learning with Emerging Technologies (3 credit hours)
- EME 6405 Adapting and Integrating Innovative Technologies in Education (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6602 Integration of Technology into the Learning Environment (3 credit hours)

Elective Courses—6 Credit Hours

Students must choose at least 6 credit hours of electives. Electives in current certification area, technology, or other as approved by adviser. Courses not listed below require adviser approval. All ENC courses require approval from English Department.

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours)

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- EDF 6472 Data-Driven Decision-Making for Instruction (3 credit hours)
- EME 6209 Multimedia Instructional Systems II (3 credit hours)
- EME 6457 Distance Education: Technology Process Product (3 credit hours)
- EME 6607 Planned Change in Instructional Technology (3 credit hours)
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- ENC 6296 Computer Documentation (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- EDF 6635 Capstone: Action Research in Teacher Leadership (3 credit hours)
- EDF 6884 Education as a Cultural Process (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)
- EGI 6051 Understanding the Gifted/Talented Student (3 credit hours)
- ESE 6217 Curriculum Design (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)

Practicum—3 Credit Hours

Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

- EME 6940 Theory into Practice in Educational Technology (3 credit hours)

INDEPENDENT LEARNING

Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Instructional Systems	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Richard Hartshorne PhD
Associate Professor
Program Director
richard.hartshorne@ucf.edu
407-823-1861
ED 223-H

Interactive Entertainment MS

PROGRAM DESCRIPTION

The Master's of Science in Interactive Entertainment at UCF's Florida Interactive Entertainment Academy (FIEA) teaches artists, programmers, and producers the techniques, tools, and skills to succeed in the gaming industry. The program provides specific skills in the area of game design, as well as essential skills such as problem solving, teamwork, and project management. Students are selected for production teams based on the skills they possess and contributions they can make to their production team.

FIEA provides a team-based, industry-oriented education in a world-class facility located at UCF's Center for Emerging Media in downtown Orlando. Student production teams are mentored by industry experts and researchers who provide instruction in game design, technical design, creative collaboration, rapid prototyping, 3-D animation and modeling, technical art, motion capture, software engineering, legal and ethical issues, preproduction, and postmortems. Graduates have access to internship opportunities and job interviews with game and media companies from across the country.

CURRICULUM

The Interactive Entertainment MS degree requires a minimum of 30 credit hours beyond the bachelor’s degree including 12 credit hours of core courses, 9 credit hours of specialization, a practicum and a capstone experience.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—24 Credit Hours

Core—12 Credit Hours

The foundation of the degree is the four-course core sequence that focuses on team-based learning. This sequence is designed to provide declarative, procedural, and strategic knowledge in a variety of issues related to game design. These include creative collaboration, rapid prototyping, 3-D animation and modeling, documentation, software engineering, legal and ethical issues, preproduction, and postmortems.

- DIG 5529C Production for Media (3 credit hours)
- DIG 5548C Rapid Prototype Production I (3 credit hours)
- DIG 5856 Experimentation, Application and Innovation in Games (3 credit hours)
- DIG 6547C Preproduction and Prototyping (3 credit hours)

Specialization—9 Credit Hours

Specialization courses help prepare students in their chosen field (Art, Production or Programming) by covering the details of each discipline. Art classes help students develop aesthetic and technical skills necessary to create compelling visuals for the entertainment industry. Programming classes focus on software engineering techniques as they apply to interactive entertainment products, while production classes focus on the specifics of game design as well as project management.

Students take all three courses in their chosen specialization.

Art Specialization

- DIG 5348C Digital Asset Creation (Fall, 3 credit hours)
- DIG 6559C Advanced Digital Asset Creation (Spring, 3 credit hours)
- DIG 6589C Digital Asset Portfolio Development (Summer, 3 credit hours)

Production Specialization

- DIG 5557 Production and Design I (Fall, 3 credit hours)
- DIG 6558 Production and Design II (Spring, 3 credit hours)
- DIG 6099 Media Distribution (Summer, 3 credit hours)

Programming Specialization

- DIG 5637 Game Programming Fundamentals (Fall, 3 credit hours)
- DIG 6638 Advanced Game Programming (Spring, 3 credit hours)
- DIG 6635 Applied Programming Mechanics (Summer, 3 credit hours)

Capstone—3 Credit Hours

The capstone experience applies the concepts and theories learned to produce a large-scale project. The target deliverable is a playable demonstration of a game that simulates the core experience and demonstrates the key features of the project's vision. The course concludes with a special event premiering the final project to the FIEA community and invited guests.

- DIG 6718C Interactive Entertainment Project (3 credit hours)

Practicum—6 Credit Hours

The practicum is a supervised experience supplementing theoretical and practical experiences involving new research developments or partnerships within industry. Students may participate on a research team exploring new ideas in interactive entertainment with industry partners, work on an on-site internship with a game company, or develop their own interests by working with faculty on a personal research area of interest.

- DIG 6944C Game Design Practicum (6 credit hours) or DIG 6947C Digital Venture Practicum (6 credit hours)

INDEPENDENT LEARNING

Both the capstone course and the practicum provide independent learning experiences. The capstone experience is a project-based class that features a game demonstration. The practicum allows students to work with industry partners, in an internship, or to conduct research.

APPLICATION REQUIREMENTS

In addition to general admission requirements, applicants must provide an official, competitive GRE score taken within the last five years, a bachelor's degree, and a portfolio of prior work.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- A portfolio of prior work as it relates to their area of specialization (art, programming, production, etc.) sent directly to the Florida Interactive Entertainment Academy.
- Applicants must submit 3 personal references with your portfolio. These

references should be willing and able to attest to your academic, professional and personal achievements. These references need to include the following info:

- Reference Name
- Email address
- Phone number
- Relationship to applicant

This program admits students in the fall semesters into production teams. Students will be selected based on the skills they possess and contributions they can make to the production team.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Because of the high volume of portfolios received, we regret that we cannot offer individual feedback on the materials that are submitted as part of the application process.

Application Deadlines

Interactive Entertainment MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Ben Noel
Program Director
bnoel@fiea.ucf.edu
407-235-3580
FIEA 115N

Interdisciplinary Studies MA

- Nonthesis
- Thesis

PROGRAM DESCRIPTION

The Master of Arts in Interdisciplinary Studies is designed for students who want to develop their own degree program by combining areas of study traditionally associated with a Master of Arts (Humanities, Social Sciences, Communication, etc.). Students have the flexibility to choose two concentrations that culminate in either a thesis or nonthesis experience based on their future aspirations.

The Master of Arts in Interdisciplinary Studies is a unique program that allows students the flexibility to develop an individually tailored plan of study and the choice of a thesis or nonthesis track.

The Nonthesis Track culminates in a comprehensive examination or a capstone project that prepares students for applied, non-research oriented careers.

The Thesis Track culminates in a scholarly publication that includes original research undertaken during your time as a graduate student. This provides excellent preparation for the future pursuit of a doctoral degree or research oriented career.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

Elizabeth Smock
Program Staff
gradids@ucf.edu
407-823-2853
MH 230

Interdisciplinary Studies MA

Nonthesis

TRACK DESCRIPTION

The Nonthesis Track in the Master of Arts in Interdisciplinary Studies program allows students the flexibility to develop an individually tailored plan of study using courses traditionally associated with MA degrees. This track can combine a variety of concentrations and culminates in a comprehensive examination or a capstone project. The program is designed to help students prepare for applied, non-research oriented careers

The Master of Arts in Interdisciplinary Studies is an excellent program for a number of endeavors appropriate for the twenty-first century. By combining the knowledge from two disciplines, supported by cross-disciplinary electives, students are able to define their own area of expertise. This unique option is ideal for students who have varied interests that can be connected by a common theme or goal.

CURRICULUM

The Nonthesis Track in the Interdisciplinary Studies MA program requires 33 credit hours, including 9 credit hours of required courses and 24 credit hours of restricted electives. The elective courses focus on the student's chosen concentrations and culminate in a capstone experience of either a written comprehensive examination or a project.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

The Master of Arts in Interdisciplinary Studies program is designed for students interested in an interdisciplinary experience who develop concentrations for their plan of study through courses traditionally associated with MA degrees.

Course work must be selected so that at least 50 percent of credit hours in the program are taken at the 6000 level. Students must earn course grades of "B" or higher to gain credit toward their master's degree.

Required Courses—9 Credit Hours

- IDS 6308 Ways of Knowing (3 credit hours)
- A critical thinking and writing course in one of the chosen concentrations or in an area that supports the plan of study (3 credit hours)
- A research methods course in one of the chosen concentrations or in an area that supports the plan of study (3 credit hours)

Elective Courses—24 Credit Hours

Students take a minimum of 24 credit hours of electives, including two concentrations of 9 credit hours of restricted electives and 6 credit hours of unrestricted electives. The additional electives can be from either concentration or a third area that supports the capstone project or intended use of the degree. Students who choose one of the pre-approved concentrations such as Diversity and Inclusion or Project Management can choose courses from those course listings on our website. Those students do not need to list 2 concentrations.

Course and concentration selections are done in consultation with and with approval from the program director or academic coordinator.

Restricted Elective Courses—18 Credit Hours

- Three courses in the first concentration (9 credit hours)
- Three courses in the second concentration (9 credit hours)

Unrestricted Elective Courses—6 Credit Hours

- Two additional elective courses (6 credit hours)

Capstone

Students choose to complete a written comprehensive examination, a project, or an internship as their capstone experience. The written examination will entail the selection of an exam committee of three faculty who will formulate questions to address both concentration areas. The student will have 48 hours to complete the take home exam and it should be completed in their final semester of enrollment. The exam will be graded on a pass/fail basis.

The capstone project should also reflect a combination of the two concentrations in the degree by finding an applied policy area, special topic, or issue that crosses both areas. Some examples of project types include: writing a grant proposal for an agency, program evaluation and recommendations, or a "best practices" literature review in a particular area. Students must choose two advisers for the project, one from each concentration area. The project will be evaluated on a pass/fail basis.

Students who feel an internship will best support their plan of study and professional goals will enroll in IDS 5949 Co-op Interdisciplinary Study (0 credits) and IDS 6949 Co-op Interdisciplinary Study (3 credits) after locating an acceptable internship host site, with the approval of the program coordinator.

INDEPENDENT LEARNING

The program is designed to provide numerous independent learning opportunities. The required methods course will introduce students to research methodology that they will apply to independent research/capstone work. IDS 6308 acquaints students with interdisciplinarity through the use of student-driven analyses, discussions, and presentations. The required critical thinking and writing course involves students in verbal and written discussions, analyses and critiques of work they create and from the published literature.

Additionally, the completion of the capstone experience will require independent learning that will be evaluated by faculty in the specified disciplines.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Personal statement addressing the following three items: (a.) Description of the two intended concentrations, (b.) What problems or issues are addressed by combining these concentrations, and (c.) What contribution(s) can the interdisciplinary combination make to society, a field of study, etc.
- Résumé.
- Three letters of recommendation (prefer academic references).
- Proposed program of study identifying the two concentrations and potential courses the student would take if admitted.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applicants should note the minimal requirements for admission to the program, although meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Nonthesis	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Elizabeth Smock
Program Staff
gradids@ucf.edu
407-823-2853
MH 230

Interdisciplinary Studies MA

Thesis

TRACK DESCRIPTION

The Thesis Track in the Master of Arts in Interdisciplinary Studies program allows students the flexibility to develop an individually tailored plan of study using courses traditionally associated with MA degrees. This track can combine a variety of concentrations and culminates in a research thesis, which provides excellent preparation for a future doctoral degree or a research-oriented career.

The Master of Arts in Interdisciplinary Studies is an excellent program for a number of endeavors in the twenty-first century. By combining the knowledge from two disciplines, supported by cross-disciplinary electives, students are able to define their own area of expertise. This unique option is ideal for students who have varied interests that can be connected by a common theme or goal.

CURRICULUM

The Thesis Track in the Master of Arts in Interdisciplinary Studies program requires 33 credit hours, including 6 credit hours of required courses, 18 credit hours of restricted electives, 3 credit hours of an unrestricted elective, and 6 credit hours of thesis research.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

The Master of Arts in Interdisciplinary Studies program is designed for students interested in an interdisciplinary experience who develop concentrations for their plan of study through courses traditionally associated with MA degrees.

Course work must be selected so that at least 50 percent of credit hours in the program are taken at the 6000 level. Students must earn course grades of "B" or higher to gain credit toward the master's degree.

Required Courses—6 Credit Hours

- IDS 6308 Ways of Knowing (3 credit hours)
- A methods course in one of the chosen concentrations (3 credit hours)

Elective Courses—21 Credit Hours

Course and concentration selections are done in consultation with and with approval of the program director or academic coordinator, as well as with the student’s faculty adviser and thesis committee.

Restricted Elective Courses—18 Credit Hours

Students take at least 9 credit hours of courses in each of two concentrations for a total of 18 credit hours.

- Electives in the first concentration (9 credit hours)
- Electives in the second concentration (9 credit hours)

Unrestricted Elective Course—3 Credit Hours

- Unrestricted elective (3 credit hours)

Thesis—6 Credit Hours

- IDS 6971 Thesis (6 credit hours)

Students should select a faculty adviser and form a thesis committee of two additional members by their third semester in the program. Before officially beginning work on the thesis, the student must submit a thesis proposal to the committee for approval. This proposal must cover the thesis topic and plan of approach. By the end of their degree, students will complete 6 credit hours of thesis and successfully defend their thesis. The thesis consists of a common theme with an introduction and literature review, details of the study, and results and conclusions. The thesis must be prepared and submitted in writing as well as presented and defended orally.

INDEPENDENT LEARNING

The thesis serves as the independent learning experience. In addition, the required methods course introduces students to research methodology that they will apply to their independent research work, and IDS 6308 acquaints them with interdisciplinarity through the use of student-driven analyses, discussions and presentations.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Personal statement addressing the following three items: (a.) Description of the two intended concentrations, (b.) What problems or issues are addressed by combining these concentrations, and (c.) What contribution(s) can the interdisciplinary combination make to society, a field of study, etc.
- Résumé.
- Three letters of recommendation (prefer academic references).
- Proposed program of study identifying the two concentrations and potential courses the student would take if admitted.

Applicants should note the minimal requirements for admission to the program, although meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Thesis	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Elizabeth Smock
Program Staff
gradids@ucf.edu
407-823-2853
MH 230

Interdisciplinary Studies MS

- Nonthesis
- Thesis

PROGRAM DESCRIPTION

The Master of Science in Interdisciplinary Studies is designed for students who want to develop their own degree program by combining areas of study traditionally associated with a Master of Science (Engineering, Life and Physical Sciences, etc.). Students have the flexibility to choose two concentrations that culminate in either a thesis or nonthesis experience based on their future aspirations.

The Master of Science in Interdisciplinary Studies is a unique program that allows students the flexibility to develop an individually tailored plan of study and the choice of a thesis or nonthesis track.

The Nonthesis Track culminates in a comprehensive examination or a capstone project that prepares students for applied, non-research oriented careers.

The Thesis Track culminates in a scholarly publication that includes original research undertaken during your time as a graduate student. This provides excellent preparation for the future pursuit of a doctoral degree or research-oriented career.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

Elizabeth Smock
Program Staff
gradids@ucf.edu
407-823-2853
MH 230

Interdisciplinary Studies MS

Nonthesis

TRACK DESCRIPTION

The Thesis Track in the Master of Science in Interdisciplinary Studies program allows students the flexibility to develop an individually tailored plan of study using courses traditionally associated with MS degrees. This track can combine a variety of concentrations and culminates in a research thesis, which provides excellent preparation for a future doctoral degree or a research-oriented career.

The Master of Science in Interdisciplinary Studies is an excellent program for a number of endeavors in the twenty-first century. By combining the knowledge from two disciplines, supported by cross-disciplinary electives, students are able to define their own area of expertise. This unique option is ideal for students who have varied interests that can be connected by a common theme or goal.

CURRICULUM

The Nonthesis Track in the Interdisciplinary Studies MS program requires 33 credit hours, including 9 credit hours of required courses, 24 credit hours of restricted electives, and a written comprehensive examination or a project.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

The Master of Science in Interdisciplinary Studies program is designed for students interested in an interdisciplinary experience who develop concentrations for their plan of study using courses traditionally associated with MS degrees.

Course work must be selected so that at least 50 percent of credit hours in the program are taken at the 6000 level. Students must earn course grades of "B" or higher to gain credit toward the master's degree.

Required Courses—9 Credit Hours

- IDS 6308 Ways of Knowing (3 credit hours)
- IDS 6351 Critical Thinking and Writing (3 credit hours)
- A methods course in one of the chosen concentrations (3 credit hours)

Restricted Elective Courses—24 Credit Hours

Students take a minimum of 24 credit hours in restricted electives, including two concentrations of 9 credit hours each and 6 credit hours for the capstone experience. Course and concentration selections are done in consultation with and with approval of the program director or academic coordinator.

Restricted Elective Courses—18 Credit Hours

- Three courses in the first concentration (9 credit hours)
- Three courses in the second concentration (9 credit hours)

Unrestricted Electives—6 Credit Hours

- Two additional elective courses (6 credit hours)

Capstone

Students choose to complete either a written comprehensive examination or a project as their capstone experience. The written examination will entail the selection of an exam committee of three faculty that will formulate questions to address both concentration areas. The student will have 48 hours to complete the take home exam and it should be completed in their final semester of enrollment. The exam will be graded on a pass/fail basis.

The capstone project should also reflect a combination of the two concentrations in the degree by finding an applied policy area, special topic, or issue that crosses both areas. Some examples of project types include: writing a grant proposal for an agency, program evaluation and recommendations, or a "best practices" literature review in a particular area. Students must choose two advisers for the project—one from each concentration area. The project will be evaluated on a pass/fail basis.

INDEPENDENT LEARNING

The program is designed to provide numerous independent learning opportunities. The required methods course introduces students to research methodology that they will apply to independent research/capstone work. IDS 6308 acquaints students with interdisciplinarity through the use of student-driven analyses, discussions and presentations. IDS 6351 engages students in verbal and written discussions, analyses and critiques of work they create and from the published literature.

Additionally, the completion of either the exam or project will require independent learning that will be evaluated by the faculty in the specified disciplines.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Personal statement addressing the following three items: (a.) Description of the two intended concentrations, (b.) What problems or issues are addressed by combining these concentrations, and (c.) What contribution(s) can the interdisciplinary combination make to society, a field of study, etc.
- Résumé.
- Three letters of recommendation (prefer academic references).
- Proposed program of study identifying the two concentrations and potential courses the student would take if admitted.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) orJosef Silny and Associates, Inc. only.

Applicants should note the minimal requirements for admission to the program, although meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Nonthesis	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Elizabeth Smock
Program Staff
gradids@ucf.edu
407-823-2853
MH 230

Interdisciplinary Studies MS

Thesis

TRACK DESCRIPTION

The Thesis Track in the Master of Science in Interdisciplinary Studies program allows students the flexibility to develop an individually tailored plan of study using courses traditionally associated with MS degrees. This track can combine a variety of concentrations and culminates in a research thesis, which provides excellent preparation for a future doctoral degree or a research-oriented career.

The Master of Science in Interdisciplinary Studies is an excellent program for a number of endeavors in the twenty-first century. By combining the knowledge from two disciplines, supported by cross-disciplinary electives, students are able to define their own area of expertise. This unique option is ideal for students who have varied interests that can be connected by a common theme or goal.

CURRICULUM

The Thesis Track in the Master of Science in Interdisciplinary Studies program requires 33 credit hours, including 6 credit hours of required courses, 18 credit hours of restricted electives, 3 credit hours of an unrestricted elective, and 6 credit hours of thesis research.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

The Master of Science in Interdisciplinary Studies program is designed for students interested in an interdisciplinary experience who develop concentrations for their plan of study through courses traditionally associated with MS degrees.

Course work must be selected so that at least 50 percent of credit hours in the program are taken at the 6000 level. Students must earn course grades of "B" or higher to gain credit toward the master's degree.

Required Courses—6 Credit Hours

- IDS 6308 Ways of Knowing (3 credit hours)
- A methods course in one of the chosen concentrations (3 credit hours)

Elective Courses—21 Credit Hours

Restricted Elective Courses—18 Credit Hours

Students take a minimum of 18 credit hours in restricted electives, including two concentrations of 9 credit hours of courses each. Course and concentration selections are done in consultation with and with approval of the program director or academic coordinator, as well as with the student's faculty adviser and thesis committee.

- Three courses in the first concentration (9 credit hours)
- Three courses in the second concentration (9 credit hours)

Unrestricted Elective Course—3 Credit Hours

- Unrestricted elective (3 credit hours)

Thesis—6 Credit Hours

- IDS 6971 Thesis (6 credit hours)

Students should select a faculty adviser and form a thesis committee of two additional members by their third semester in the program. Before officially beginning work on the thesis, the student must submit a thesis proposal to the committee for approval. This proposal must cover the thesis topic and plan of approach. By the end of their degree, students will complete 6 credit hours of thesis and successfully defend their thesis. The thesis consists of a common theme with an introduction and literature review, details of the study, and results and conclusions. The thesis must be prepared and submitted in writing as well as presented and defended orally.

INDEPENDENT LEARNING

The thesis serves as the independent learning experience. In addition, the required methods course introduces students to research methodology that they will apply to independent research work, and IDS 6308 acquaints students with interdisciplinarity through the use of student-driven analyses, discussions and presentations.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Personal statement addressing the following three items: (a.) Description of the two intended concentrations, (b.) What problems or issues are addressed by combining these concentrations, and (c.) What contribution(s) can the interdisciplinary combination make to society, a field of study, etc.
- Résumé.
- Three letters of recommendation (prefer academic references).
- Proposed program of study identifying the two concentrations and potential courses the student would take if admitted.

Applicants should note the minimal requirements for admission to the program, although meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Thesis	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Elizabeth Smock
Program Staff
gradids@ucf.edu
407-823-2853
MH 230

K-8 Mathematics and Science Education MEd

PROGRAM DESCRIPTION

The Master of Education in K-8 Mathematics and Science Education program prepares teachers to improve the quality of teaching and learning in mathematics and science in grades K-8.

The K-8 Mathematics and Science Education program is offered as a Master of Education (MEd) degree for teachers with at least three years experience who instruct students in mathematics and/or science in the indicated grade levels.

The K-8 Mathematics and Science Education program is designed to improve the quality of teaching and learning in mathematics and science in grades K-8. Graduates of the K-8 Mathematics and Science program form a strong infrastructure of teachers focusing on long-term impact in schools while helping students succeed in mathematics and science classrooms.

The program is dedicated to providing all graduates with exceptional pedagogical and subject matter knowledge and skills by focusing on research-based, state-of-the-art best practices in elementary and middle school mathematics and science education.

Other K-8 Mathematics and Science Programs

The K-8 Mathematics and Science Education program offers a graduate certificate program that can be transferred in its entirety into the master's program.

The K-8 Mathematics and Science Education program is closely allied with both the EdD and PhD in Education programs. Graduates of the K-8 Mathematics and Science master's program have been very successful in completing the advanced graduate degrees.

CURRICULUM

The K-8 Mathematics and Science Education MEd program requires a minimum of 36 credit hours beyond the bachelor’s degree, including 15 credit hours of core courses, 15 credit hours of specialization content pedagogical courses, and six credit hours of thesis work or the nonthesis option, which focuses on either completing and submitting findings of a research project to a refereed journal or developing a portfolio in preparation for National Board Certification for Teachers.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—30 Credit Hours

Core—15 Credit Hours

- EDF 6472 Data-Driven Decision-making for Instruction (3 credit hours)
- EEX 6342 Seminar - Critical Issues in Special Education (3 credit hours)

- IDS 6937 Teaching Mathematics and Science Using Reform-based Practices (3 credit hours)
- IDS 6939 Reforming Curriculum in Mathematics and Science Education (3 credit hours)
- IDS 6516 Leadership Development for Mathematics and Science Teachers (3 credit hours)

Specialization—15 Credit Hours

The following courses provide the content pedagogical courses for the K-8 Mathematics and Science Education MEd program.

- SCE 5836 Space and Physical Science for Educators (3 credit hours)
- ISC 6146 Environmental Education for Educators (3 credit hours)
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)
- MAE 6318 Current Methods in Elementary School Mathematics (3 credit hours)
- MAE 6641 Problem Solving and Critical Thinking Skills (3 credit hours)

Thesis Option—6 Credit Hours

- IDS 6971 Thesis

Nonthesis Option—6 Credit Hours

Some students may choose to complete a nonthesis option, the action research project, through one of two pathways: (1) plan, complete, and submit findings of a research project to a refereed journal; or (2) develop a portfolio according to the guidelines of the National Board for Professional Teaching Standards (NBPTS). The portfolio requires a demonstration of professional growth, reflection, and proficiency and incorporates the concepts of "action research" in a classroom. In addition, all portfolios require a final reflective analysis of students' overall learning and professional development as the capstone portfolio entry. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. Students must submit and defend their portfolio before the program faculty as well as submit it for National Board Certification review.

- IDS 6910 Research in Mathematics and Science Education (3 credit hours)
- EDG 6329 Quality Teaching Practices (3 credit hours)

INDEPENDENT LEARNING

A thesis or action research project is required.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide three years of teaching experience, a recommendation letter by a school principal, and a professional Florida teaching certificate in elementary, mathematics, or science education. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three years of teaching experience.
- Recommendation letter by a school principal.
- A professional Florida teaching certificate in one of the following areas: elementary education, mathematics education (middle school or secondary), or science education (middle school or secondary).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

K-8 Mathematics and Science Education program applications are accepted for admission to the summer term only. For information regarding the Lockheed Martin/UCF Academy for Mathematics and Science please visit http://education.ucf.edu/lmacad/index.cfm.

Application Deadlines

K-8 Mathematics and Science Education MEd	Fall Priority	Fall	Spring	Summer
Domestic Applicants				Apr 15
International Applicants				Nov 1
International Transfer Applicants				Dec 15

CONTACT INFO

Juli K. Dixon PhD
Professor
Program Director
juli.dixon@ucf.edu
ED 123F

Management MSM

- Business Analytics
- Human Resources / Change Management

PROGRAM DESCRIPTION

The Professional Master of Science in Management (PMSM) program provides an alternative to the MBA degree for students who desire specialized study and the development of a high level of professional proficiency in a functional area of business.

The Professional Master of Science in Management (PMSM) offers 2 options: a Business Analytics Track and a Human Resources/Change Management Track. Both tracks are designed to allow the busy professional to work full-time while earning their degree.

- 20-month program offered in downtown Orlando
- Limited class size, cohort program

- Classes meet two nights per week at UCF's Executive Development Center
- Personal interview required for admission

The PMSM/Human Resource Track prepares students to work in organizations in such areas as human resources, strategic planning, organizational effectiveness, and staffing and employee relations.

The PMSM/Business Analytics Track prepares students to collect, manage, analyze, interpret and apply data to assist organizations in making better and more informed business decisions.

The courses are intended to expose students to new methods, concepts, and tools that will enhance their business and leadership skills. Innovative teaching methodologies such as team-based projects, interdisciplinary case studies, simulations, debating-the-issues activities, and self-assessment exercises are used to enhance the learning experience.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Tracks may have different admission requirements and application deadlines.Applicants must choose either the Human Resources/Change Management track or the Business Analytics track in this program. Tracks may have different requirements and deadlines.

CONTACT INFO

Robin Hofler
Program Staff
mba@bus.ucf.edu
407-235-3913
DTC 201B

Management MSM

Business Analytics

TRACK DESCRIPTION

The Business Analytics track in the Professional Master of Science in Management (PMSM/BA) provides students with the specialized skills necessary to respond to challenges of the new data intensive business world of today.

This program is a professional program with a market rate tuition, and is considered a part-time program. The tuition is the same for Florida residents and non-residents. Please visit http://business.ucf.edu/degree/professional-ms-management-business-analytics-track/ for more information about the curriculum and specific course sequence.

The 30-hour, ten course curriculum introduces students to the main quantitative methods and software tools of business analytics, a subfield of data science; namely, those used in numerical, optimization, simulation, and statistical methods. Designed for those interested in using quantitative methods to uncover economic relationships, to construct predictive models, and to communicate business intelligence, the curriculum provides students with the knowledge necessary in making informed business decisions. Specifically, students will learn how to acquire, organize, manage, and analyze data. In addition to gaining experience with software tools commonly used in industry (such as UNIX, SQLite, Python, and R), students will also be instructed in using commercial software (such as SAS) to train, validate, and test empirical models. Through a combination of case studies, hands-on lectures, and group projects, students will gain valuable experience in using quantitative methods to solve business problems. The program culminates in an applied field project that uses these methods and tools to solve a non-trivial business problem.

View course sequence and descriptions.

- 20-month program offered downtown Orlando
- Limited class size, cohort program
- Classes meet Monday and Wednesday evenings
- No work experience requirement
- Personal interview required for admission

The PMSM/Business Analytics classes are held at UCF's Executive Development Center located in downtown Orlando. PMSM/BA students will find a high level of personal attention from program administrators from the moment they apply. Ideal candidates for this degree are students with an understanding of statistics and quantitative methods, but come from a variety of degree fields such as business, economics, finance, statistics, information systems and engineering.

Prerequisites: A minimum of college-level economics and statistics courses required. All foundation course requirements will be determined once application is reviewed. Needed foundation courses must be completed during the summer prior to the program start.

This program is a professional program with a market rate tuition, and is considered a part-time program. The tuition is the same for Florida residents and non-residents. Please visit www.business.ucf.edu/graduate-programsfor more information.

CURRICULUM

The Business Analytics track in the Professional Master of Science in Management (PMSM/BA) provides students with the specialized skills necessary to respond to challenges of the new data intensive, decision-making business world of today. Students become business analysts skilled in the collection, management, analysis, interpretation and application of data to aid in more informed and successful business decisions. Skills learned in this degree are applicable across industries and organizations whether they be large or small, for-profit or nonprofit.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

Students take five courses from the courses listed below.

- MAN 6325 Applied Research Tools (3 credit hours)
- MAN 6305 Human Resources Change Management (3 credit hours)
- MAN 6915 Applied Field Project (6 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- GEB 6895 Business Intelligence (3 credit hours)
- QMB 6755 Models for Business Decisions (3 credit hours)
- MAN 6311 Advanced Topics in Human Resources Management (3 credit hours)

Business Analytics Specialization—15 Credit Hours

- STA 5104 Advanced Computer Processing of Statistical Data (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 6704 Data Mining Methodology II (3 credit hours)
- MAR 6646 Marketing Analytics for Strategic Decision Making (3 credit hours)

Course Sequence

The Professional MSM Business Analytics Track is a 10-course program. The courses are pre-selected and set in a lock-step sequence.

Session 1

- GEB 6895 Business Intelligence (3 credit hours): Study of the sources, acquisition, warehousing, analysis, and application of data pertaining to business decision-making in the firm.
- MAN 6325 Applied Research Tools (3 credit hours): Development of applied qualitative and quantitative research skills for collecting, analyzing and reporting data to organizations.

Session 2

- QMB 6755 Models for Business Decision Making (3 credit hours): Examines quantitative techniques useful for the solution of business problems. Mathematical model building to aid the decision-making process is stressed. Techniques applied through case analysis.
- STA 5104 Advanced Computer Processing of Statistical Data (3 credit hours): Use of SAS and other statistical software packages; data manipulation; graphical data presentation; data analysis; creating analytical reports.

Session 3

- STA 6714 Data Preparation (3 credit hours): Data exploration, variable selections, variable clustering, missing value imputation, high dimensional categorical variable smoothing/clustering, text data preparation and time series data preparation. Additional data preparation topics associate with data mining and big data techniques will also covered. The SAS Enterprise Miner (R or Python) will be used.
- STA 5703 Data Mining Methodology I (3 credit hours): Supervised data mining tools such as decision trees, random forest, support vector machine, regression including Ridge, Lasso, Elastic Net and Least Angle, and neural network fundamental will be covered. The SAS Enterprise Miner (R or Python) will be used.

Session 4

- STA 6704 Data Mining Methodology II (3 credit hours): Unsupervised learning methods such as cluster analysis, link analysis and association analysis will be covered. In addition, newly developed mining tools such as text mining, network analysis, advance neural network and time series clustering will also be covered. The SAS Enterprise Miner (R or Python) will be used.

- MAR 6646 Marketing Analytics for Strategic Decision Making (3 credit hours): Study of a variety of data-driven models and techniques used to understand customers, improve results, and facilitate strategic decision making.

Session 5

- MAN 6915 Applied Field Project (3 credits hours): Applies how to use data and appropriate software tools learned earlier in the program to a business setting.
- MAN 6721 Applied Strategy and Business Policy (3 credit hours): Integrates the various functional disciplines in business administration. It focuses on the theories and frameworks in the field of strategic management.

Capstone Course

The Master of Science in Management/Business Analytics (PMSM/BA) capstone course, MAN 6915 Applied Field Project, is required for all PMSM/BA students. This capstone course applies concepts, theories and methods learned earlier in the program to organizational problems in business settings.

Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required, however, the Admissions Committee may ask for the GMAT to strengthen a candidate's application packet.
- Three letters of recommendation or three e-mail addresses of recommenders.
- A goal statement of no more than 1000 words addressing the following: *Explain why you want to earn an MS in Management/Business Analytics degree; why you believe this is the right time for you to pursue this graduate degree; and why you selected UCF*.
- Résumé.
- Interview. Student will be contacted to schedule an interview after the application is complete.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) is required if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a

university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program whose completed bachelor's degree is from a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Early application tuition discounts are available for this program. To view early application discount deadlines, and for more information, visit the Executive Development Center website at www.business.ucf.edu/graduate-programs.

Application Deadlines

Business Analytics	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 1		
International Applicants				
International Transfer Applicants				

CONTACT INFO

Robin Hofler
Program Staff
mba@bus.ucf.edu
407-235-3913
DTC 201B

Management MSM

Human Resources / Change Management

TRACK DESCRIPTION

The Human Resources/Change Management Track in the Professional Master of Science in Management (PMSM/HR) program is accredited by AACSB International. It is designed for working professionals who aspire to become leaders in human resource management or general management.

This program is a professional program with a market rate tuition, and is considered a part-time program. The tuition is the same for Florida residents and non-residents. Please visit www.business.ucf.edu/graduate-programs for more information.

This 30-hour program provides an alternative to the MBA degree for students who desire specialized study in management and human resources, and seek employment or career advancement in the areas of human resources, strategic planning, organizational effectiveness, staffing, compensation and employee relations.

- 20-month program offered downtown Orlando
- Limited class size, cohort program
- Classes meet Monday and Wednesday evenings
- Minimum two year work experience requirement
- Personal interview required for admission

The innovative curriculum combines general management and strategic business classes with advanced coursework in management of human resources. It provides students with the latest business techniques and knowledge required to succeed in today's competitive marketplace. One main component of the program is a focus on developing practices and methods that align human resources activities with organizational strategies and provide students with the knowledge required to successfully anticipate, plan, and carry out changes.

Students with a wide variety of backgrounds, including those with degrees in business, education, hospitality, nursing, and psychology are encouraged to apply.

This program is a professional program with a market rate tuition, and is considered a part-time program. The tuition is the same for Florida residents and nonresidents. Please visit www.business.ucf.edu/graduate-programs for more information.

CURRICULUM

The Human Resources/Change Management Track in the Professional Master of Science in Management (PMSM/HR) program is designed for working professionals who aspire to become leaders in human resource management or general management. This 30-hour program provides an alternative to the MBA degree for students who desire specialized study in management and human resources, and seek employment or career advancement in the areas of human resources, strategic planning, organizational effectiveness, staffing, compensation and employee relations.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

Students take five courses from the courses listed below.

- MAN 6325 Applied Research Tools (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- MAN 6915 Applied Field Projects (3 credit hours)
- MAN 6245 Organizational Behavior (3 credit hours)
- GEB 6895 Business Intelligence (3 credit hours)
- QMB 6755 Models for Business Decision Making (3 credit hours)
- MAN 6311 Advanced Topics in Human Resources Management (3 credit hours)

Specialization Courses—15 Credit Hours

Students take five courses from the courses listed below.

- MAN 6385 Strategic Human Resources Management (3 credit hours)
- MAN 6721 Applied Strategy and Business Policy (3 credit hours)
- MAN 6285 Change Management (3 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAN 6066 Ethical Leadership (3 credit hours)
- BUL 6444 Law and Ethics (3 credit hours)
- GEB 6518 Strategic Innovation (3 credit hours)

Capstone Course

The Professional Master of Science in Management/Human Resources (PMSM/HR) capstone course, MAN 6915 Applied Field Project, is required for all PMSM/HR students. This capstone course applies concepts, theories and methods learned earlier in the program to organizational problems in business settings.

Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants to this program must provide three letters of recommendation, an essay, and a résumé; applicants from countries where English is not the official language or applicants with degrees from non-U.S. accredited institutions must achieve a minimum score of 233 on the TOEFL; applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required, however, the Admissions Committee may ask for the GMAT to strengthen a candidate's application packet.
- Three letters of recommendation or three e-mail addresses of recommenders.
- Prepare a career goal statement explaining why you want to earn a Master of Science degree in Management; why you believe this is the right time for you to pursue this degree; and why you selected UCF.
- Résumé showing a minimum of two years of professional work experience.
- Interview. Student will be contacted to schedule an interview after the application is complete.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign Language (TOEFL) is required if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program whose completed bachelor's degree is from a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Early application tuition discounts are available for this program. To view early application discount deadlines, and for more information, visit the Executive Development Center website at www.business.ucf.edu/graduate-programs.

Application Deadlines

Human Resources / Change Management	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Robin Hofler
Program Staff
mba@bus.ucf.edu
407-235-3913
DTC 201B

Marriage, Couple, and Family Therapy MA

PROGRAM DESCRIPTION

The CACREP accredited Marriage, Couple and Family Therapy Master of Arts program prepares students for licensure in marriage and family therapy and practice in agencies, private practice, and other settings.

As part of the program's pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling and Research Center and field-based experiences in the community. The UCF Community Counseling and Research Center serves as a hub for training and research in the program, with graduate students providing annual services to over 1,400 individuals, couples, and families in the central Florida community.

CURRICULUM

The CACREP accredited Marriage, Couple and Family Therapy MA program prepares students for Florida licensure in marriage and family therapy. The program requires a minimum of 63 credit hours beyond the bachelor's degree, including 6 credit hours of core courses, 45 credit hours of specialization courses (including 3 credit hours of an elective), and 12 credit hours of professional clinical experience.

Total Credit Hours Required:

63 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—51 Credit Hours

Core—6 Credit Hours

- EDF 6155 Lifespan Human Development and Learning (3 credit hours)
- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)

Specialization—45 Credit Hours

- MHS 5005 Introduction to the Counseling Profession (3 credit hours)
- MHS 6430 Family Counseling I (3 credit hours)
- MHS 6431 Family Counseling II (3 credit hours)
- MHS 6440 Couples Counseling (3 credit hours)
- MHS 6070 Diagnosis and Treatment in Counseling (3 credit hours)
- MHS 6220 Individual Psychoeducational Testing I (3 credit hours)
- MHS 6400 Theories of Counseling and Personality (3 credit hours)
- MHS 6401 Techniques of Counseling (3 credit hours)
- MHS 6420 Foundations of Multicultural Counseling (3 credit hours)
- MHS 6450 Addictions Counseling (3 credit hours)
- MHS 6470 Human Sexuality and Relationships (3 credit hours)
- MHS 6500 Group Procedures and Theories in Counseling (3 credit hours)
- MHS 6702 Ethical and Legal Issues (3 credit hours)
- SDS 6347 Career Development (3 credit hours)
- Elective approved by adviser (3 credit hours)

Professional Clinical Experience—12 Credit Hours

The clinical experiences are comprised of two sections, Practicum and Internship. Both are experiential in nature and are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program to their work with actual clients. The practicum is conducted on campus in the UCF Community Counseling and Research Center and the internship is conducted at various clinical sites around central Florida.

- MHS 6803 Practicum in Counselor Education (3 credit hours)*
- MHS 6803 Practicum in Counselor Education (3 credit hours)*
- MHS 6830 Counseling Internship (3 credit hours)**
- MHS 6830 Counseling Internship (3 credit hours)**

* Prerequisites for MHS 6803 Practicum in Counselor Education are the following: MHS 5005, MHS 6070, MHS 6400, MHS 6401, MHS 6500, and MHS 6702. A minimum of 27 credit hours are required prior to beginning the practicum.

** The prerequisite for MHS 6830 Counseling Internship is a "B" or better in all sections of MHS 6803 as well as MHS 6420.

Additional Program Requirements

- Achieve at least a GPA of 3.0 in counseling specialization courses.
- Achieve a "B" or better in MHS 5005, MHS 6401, MHS 6803, and MHS 6830.
- Complete a total of 800 hours of clinical experiences, 200 of which will be in the UCF Community Counseling and Research Center and 600 of which are field-based experiences in the community.
- Students in the Marriage, Couple and Family Therapy program must complete 180 hours of marriage and family therapy services (within the 800 total hours of clinical experiences over the course of their practica and internships) in a marriage and family therapy setting.
- Complete a portfolio and receive approval by Counselor Education faculty.
- Complete a professional exit examination.
- Given the experiential, competency, and performance-based nature of the courses taken by Marriage, Couple and Family Therapy students, students are limited to taking a maximum of three (3) courses per semester. However, if students believe they can verify a need to take more than three courses, they should consult with their academic advisor for approval guidelines. Students who have not received prior approval and who register for more than three courses per semester will be administratively dropped from any courses over the maximum load.

INDEPENDENT LEARNING

Practica and internships are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program. The internship experience provides students with the practical experience of providing hands-on services for a variety of clients and presenting concerns. Such services may include, but are not limited to, individual, couple, family, and group counseling with children, adolescents, and adults. Client concerns range from developmental and relational concerns to more severe pathology.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants to this program must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, a résumé, and a goal statement.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Three letters of recommendation.
- Résumé.
- Goal statement.

The Master of Arts in Marriage, Couple and Family Therapy program can accommodate only a limited number of students; therefore, there is a possibility of being denied admission even when all criteria are met.

The College of Education and Human Performance reserves the right to refuse student entrance or terminate a student after admission to the Counselor Education program, if in the judgement of the faculty the student demonstrates unacceptable personal fitness to work in the counseling field with children, youth, and/or adults.

A formal interview is required and will be scheduled after the College of Education and Human Performance admission requirements are met. The interview dates for March and October will be posted on our Counselor Education website. Attendance at the program orientation session at 4:30 p.m. on the Thursday before classes begin, in the semester to which the student applied, is mandatory.

Application Deadlines

Marriage, Couple, and Family Therapy MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Feb 15		

CONTACT INFO

Sejal Barden PhD
Assistant Professor
Program Director
Sejal.Barden@ucf.edu
407-823-6106
ED 322H

Materials Science and Engineering MSMSE

- Accelerated BS to MSMSE

PROGRAM DESCRIPTION

The Master of Science in Materials Science and Engineering program is primarily for students with bachelor's degrees in Materials Science and Engineering or a closely related discipline.

Fields of emphasis and research for materials science and engineering include crystal growth, high temperature materials and coatings, multicomponent interdiffusion, material stability and degradation, shape memory alloys, mechanical behavior, magnetic and optical and electronic materials, thin films, solar cells, sensors, ceramics, powder metallurgy, non-equilibrium processing of materials, nanosynthesis and consolidation, nanomaterials including quantum dots nanowires and nanocomposites, biomaterials, and electrochemically active materials.

CURRICULUM

The Materials Science and Engineering MSMSE program offers both thesis and nonthesis options with each requiring a minimum of 30 credit hours beyond the bachelor's degree. In general, the program includes 12-15 credit hours of required courses with the remaining courses being electives except for at least six credit hours of thesis work for students in the thesis option.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

The thesis option is primarily for those students who can devote a full-time effort to completing an independent research project that leads to a thesis. A student pursuing the thesis option may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

The nonthesis option is primarily designed for part-time and online students and requires 30 credit hours of course work. In addition, students pursuing the nonthesis option are required to take EML 6085 Research Methods in MAE or EMA 6918 Directed Research as part of their 30-credit-hour course requirement to demonstrate their ability to perform independently in research conditions. See the MSE program director for specific details.

All students are expected to identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. All programs of study must consist of at least 24 credit hours of required and elective courses, exclusive of thesis and research. At least half of the credit hours in a program of study must be at the 6000 level. The appropriate program of study form can be found at the program website listed above and students should consult with the MSE program director for assistance in filling out the program of study form and approval. Substitutions to the program of study must meet with the approval of the adviser and the MSE program director.

A student with an undergraduate degree outside of the materials science and engineering discipline is required to satisfy an articulation program and may have to take additional prerequisite courses.

Prerequisites (or equivalent)

- Mathematics through Differential Equations (MAP 2302)
- Structure and Properties of Materials (EGN 3365)
- Mechanics of Materials (EGN 3331) or Thermodynamics (EGN 3343)
- Experimental Techniques in Mechanics and Materials (EMA 3012C)

Required Courses—15 Credit Hours

All students must take five required courses unless they hold a materials engineering undergraduate degree, in which case they may substitute an additional elective for EMA 5104.

- EMA 5104 Intermediate Structure and Properties of Materials (3 credit hours)
- EMA 5106 Metallurgical Thermodynamics (3 credit hours)
- EMA 5317 Materials Kinetics (3 credit hours)

All students must take one of the two following pairs of required courses.

- EMA 6126 Physical Metallurgy (3 credit hours)
- EMA 6626 Mechanical Behavior of Materials (3 credit hours)

Or

- EMA 5060 Polymer Science and Engineering (3 credit hours)
- EMA 6319 Colloids and Interface Engineering (3 credit hours)

Students taking the courses in one required pair may also take the courses in the other required pair as electives.

Elective Courses—9 Credit Hours

All students, both thesis and nonthesis, must take at least 9 credit hours of electives. Additional electives are listed below. Courses should be selected with faculty adviser approval.

- EMA 5108 Surface Science (3 credit hours)
- EMA 5140 Introduction to Ceramic Materials (3 credit hours)
- EMA 5504 Modern Characterization of Materials (3 credit hours)
- EMA 6130 Phase Transformation in Metals and Alloys (3 credit hours)
- EMA 6136 Diffusion in Solids (3 credit hours)
- EMA 5585 Materials Science of Thin Film (3 credit hours)
- EMA 6516 X-ray Diffraction and Crystallography (3 credit hours)
- EMA 5586 Photovoltaic Solar Energy Materials (3 credit hours)
- EMA 5584 Biomaterials (3 credit hours)
- EMA 6149 Imperfections in Crystals (3 credit hours)
- EMA 5505 Scanning Electron Microscopy (3 credit hours)
- EMA 5060 Polymer Science and Engineering (3 credit hours)
- EMA 6518 Transmission Electron Microscopy (3 credit hours)
- EMA 5705 High Temperature Materials (3 credit hours)
- EMA 6605 Materials Processing Techniques (3 credit hours)
- EMA 5610 Laser Materials Processing (3 credit hours)
- EML 6085 Research Methods in MMAE (3 credit hours)
- EMA 6611 Optoelectronics Materials Processing (3 credit hours)

Electives Outside EMA Offerings

- CHM 5450 Polymer Chemistry (3 credit hours)
- CHM 5451C Techniques in Polymer Science (3 credit hours)
- CHM 5715C Materials Processing and Characterization Techniques (3 credit hours)
- CHM 6711 Materials Chemistry (3 credit hours)
- EEE 5332C Thin Film Technology (3 credit hours)
- EEE 5352C Semiconductor Material and Device Characterization (3 credit hours)
- EEE 6326C MEMS Fabrication Laboratory (3 credit hours)
- EML 5290 Introduction to MEMS and Micromachining (3 credit hours)
- EML 5291 MEMS Materials (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)
- OSE 6432 Fundamentals of Photonics (3 credit hours)
- PHY 5140C Ion-Solid Interactions (3 credit hours)
- PHY 7423 Physics of Nanostructures (3 credit hours)
- PHZ 5405 Condensed Matter Physics (3 credit hours)

Thesis Option—6 Credit Hours

Thesis students must complete an independent research project, and write and successfully defend their thesis that describes the project.

- EMA 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Nonthesis Option—6 Credit Hours

Nonthesis students are required to demonstrate their ability to perform independently in research conditions by completing either EML 6085 or EMA/EML 6918. In addition, they must take another elective beyond the 9 credit hours of electives described above.

- EML 6085 Research Methods in MAE (3 credit hours) or EMA 6918 Directed Research (3 credit hours)
- Elective (3 credit hours)

Equipment Fee

Students in the Materials Science and Engineering MSMSE program pay $17 per semester for equipment each semester that they are enrolled. Part-time students pay $8.50 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis or EML 6085 Research Methods or EMA 6918 Directed Research for nonthesis students.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to general application requirements, applicants must provide a bachelor's degree in Materials Science and Engineering or a closely related discipline, résumé, and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Materials Science and Engineering or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the MSE graduate program director for more information.

Application Deadlines

Materials Science and Engineering MSMSE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Jiyu Fang PhD
Associate Professor
Program Director
jiyu.fang@ucf.edu
407-882-0609
Engineering I, RM 207B

Accelerated BS to MSMSE

TRACK DESCRIPTION

The accelerated undergraduate/graduate program in Materials Science and Engineering allows highly qualified UCF undergraduate majors in Mechanical Engineering to begin taking graduate-level courses that will count toward their master's degree while completing their baccalaureate degree program. Participation will enable completion of the Bachelor of Science and Master of Science degrees in five instead of six years for students enrolled in full-time course work.

CURRICULUM

The BSME is awarded after completing university requirements for the degree, including 128 total credit hours and completing of 71 credit hours of engineering courses. The MSMSE is awarded upon completion of the master's program. Courses designated in General Education Program and Common Program Prerequisites are usually completed in the first 60 hours (see engineering major requirements in the Undergraduate Catalog).

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Up to 12 credit hours of approved graduate-level courses of grades "B" (3.0) or better may be counted toward the BS and MS degrees. Additional notes on the Accelerated Undergraduate and Graduate Program in Materials Science and Engineering are as follows:

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a "B" (3.0) in each undergraduate and graduate engineering course for them to be counted toward the major.

Undergraduate Requirements

Please see the current edition of the Undergraduate Catalog for additional information about engineering programs.

Graduate Requirements

Please see the Materials Science and Engineering MSME program in the Graduate Catalog for additional information.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis or EML 6085 Research Methods or EMA/EML 6918 Directed Research for nonthesis students.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to the general application requirements, applicants must provide a bachelor's degree in Materials Science and Engineering or a closely related discipline, résumé, and a statement of educational, research, and professional career objectives.

The **Accelerated BS to MS Program** in Materials Science and Engineering allows highly qualified University of Central Florida undergraduate majors in Mechanical Engineering to begin taking graduate level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to **Materials Science Engineering MS Program** without a track selection. Additional information about this track may be located at: http://www.cecs.ucf.edu/current-students/bs-ms-program.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Materials Science and Engineering or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Students should contact the Materials graduate program director for more information.

Application Deadlines

Accelerated BS to MSMSE	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Jiyu Fang PhD
Associate Professor
Program Director
jiyu.fang@ucf.edu
407-882-0609
Engineering I, RM 207B

Mathematical Science MS

- Industrial Mathematics
- Financial Mathematics

PROGRAM DESCRIPTION

The Master of Science in Mathematical Science provides a broad base in applied, financial and industrial mathematics.

Students in the program can specialize in one of many aspects of mathematics, including Approximation Theory, Applied and Computational Harmonic Analysis, Big Data and Mathematical Statistics, Combinatorics and Graph Theory, Commutative Algebra and Algebraic Geometry, Control and Optimization, Differential and Symplectic Geometry, Fluid and Plasma Dynamics, Functional Analysis, Inverse and Ill-posed Problems, Mathematical Biology, Mathematical Finance, Nonlinear Waves and Nonlinear Dynamics, Numerical Analysis, Orthogonal Polynomials, Partial Differential Equations, Probability and Stochastic Analysis, Tomography and Medical Imaging, and Wave Propagation.

CURRICULUM

The Mathematical Science MS program requires 30 credit hours minimum beyond the bachelor's degree. There are two options for the master's degree: thesis and nonthesis.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Thesis and nonthesis options are offered within the program. In both options, after completing the core courses, a student must establish an academic adviser for nonthesis MS option or a thesis adviser for thesis MS option. A program of study must be established by the end of the second semester and presented to the graduate program director for departmental approval. The program of study must include the completion of the core courses and one 2-semester sequence. At least one-half of the program courses in both options must be taken at the 6000 level.

Required Courses—15 Credit Hours

For thesis or nonthesis option, the master's program requires all students to complete the following five courses.

- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours)
- MAA 5228 Analysis I (3 credit hours)
- MAA 6229 Analysis II (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)
- MAP 6385 Applied Numerical Mathematics (3 credit hours)

Elective Courses—9 Credit Hours

Restricted Electives—3–6 Credit Hours

After the completion of the core courses, the program requires all students to complete one of the following two-semester sequences. The following shows examples of acceptable sequences using current courses. We expect that other sequences will be developed as our program grows. Note that some sequences consist of a core course plus one elective, while others consist of two electives. Thus, the credit hours in this requirement are variable (3 to 6 credit hours).

- MAP 6407 Integral Equations and Calculus of Variations (3 credit hours) / MAP 6408 Perturbations and Asymptotic Methods (3 credit hours)
- MAA 6405 Complex Variables (3 credit hours) / MAA 6404 Complex Analysis (3 credit hours)
- MAD 5205 Graph Theory I (3 credit hours) / MAD 6309 Graph Theory II (3 credit hours)
- MAP 5336 Ordinary Differential Equations and Applications (3 credit hours) / MAP 6356 Partial Differential Equations (3 credit hours)
- MAA 6238 Measure and Probability I (3 credit hours) / MAP 6111 Mathematical Statistics (3 credit hours) or MAA 6245 Measure and Probability II (3 credit hours)
- MAA 6306 Real Analysis (3 credit hours) / MAA 6506 Functional Analysis (3 credit hours)

Unrestricted Electives—3-6 Credit Hours

Unrestricted electives should be chosen in consultation with the graduate program director or the student's thesis adviser and may be chosen from the suggested options: Approximation Theory, Applied and Computational Harmonic Analysis, Big Data and Mathematical Statistics, Combinatorics and Graph Theory, Commutative Algebra and Algebraic Geometry, Control and Optimization, Differential and Symplectic Geometry, Fluid and Plasma Dynamics, Functional Analysis, Inverse and Ill-posed Problems, Mathematical Biology, Mathematical Finance, Nonlinear Waves and Nonlinear Dynamics, Numerical Analysis, Orthogonal Polynomials, Partial Differential Equations, Probability and Stochastic Analysis, Tomography and Medical Imaging, and Wave Propagation. A list of courses for these elective options can be obtained from the graduate program director. Approved graduate courses outside the department may also be used.

Thesis Option—6 Credit Hours

In this option, the MS degree requires a total of at least 30 credit hours comprised of at least 24 credit hours of course work and 6 credit hours of thesis. This includes the 15 credit hours of the core courses and 3-6 credit hours of a two-course sequence. No more than 6 credit hours of independent study or directed research may be credited toward the degree. It is strongly recommended that the student select a thesis adviser and establish a program of study by the completion of the core courses. With the help of a thesis adviser, the student will form a thesis committee of three members, of which at least two must be from the Department of Mathematics.

It is recommended that the thesis topic have potential for industrial applications. An oral defense of the thesis will be required.

- MAP 6971 Thesis (6 credit hours)

Nonthesis Option—6 Credit Hours

Nonthesis students will take an additional 6 credit hours of electives. The electives should be chosen in consultation with the graduate program director.

Nonthesis students will receive independent learning experiences by taking one of the two-semester sequences, where they apply mathematical principles to independent projects. Other courses that also have substantial research projects include MAP 5117 Mathematical Modeling, MAT 5712 Scientific Computing and MAP 6111 Mathematical Statistics, MAP 6424 Transform Methods, MAP 6465 Wavelets and Their Applications, and may be taken as electives.

No more than 3 credit hours of independent study may be credited toward the degree. It is strongly recommended that the student select an academic adviser and establish a program of study by the completion of the core courses. In addition, the nonthesis student must pass a comprehensive written examination (by passing the qualifying/comprehensive examination at or above the MS level) based on the core courses. Two attempts at the examination are permitted.

INDEPENDENT LEARNING

In the Mathematical Science MS program, the thesis option provides an independent learning experience through directed research, reading published research papers, and writing and defending the thesis. The nonthesis option requires students to take one of the two-semester sequences, where they apply mathematical principles to independent projects.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years and a working knowledge of undergraduate calculus, differential equations, linear algebra (or matrix theory), boundary value problems, statistics, computer programming, and maturity in the language of advanced calculus (at the level of MAA 4226).

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- A working knowledge of undergraduate calculus, differential equations, linear algebra (or matrix theory), and maturity in the language of advanced calculus (at the level of MAA 4226).

Students who find they are not adequately prepared in one or more of the required mathematical subject areas can select appropriate courses from the undergraduate curriculum to make up such deficiencies. Such courses, unless specially approved, will not count toward the graduate degree. Applicants not qualified for regular status may be admitted initially to the university in a nondegree-seeking status. Transfer of credits from other programs will be considered on a course-by-course basis.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Mathematical Science MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Qiyu Sun
Professor
Program Director
qiyu.sun@ucf.edu
407-823-4839
PO Box 161364

Mathematical Science MS

Industrial Mathematics

TRACK DESCRIPTION

The Industrial Mathematics track in the Mathematical Science MS program prepares graduate students to pursue careers in industry by providing them with high quality professional training in branches of mathematics valuable to high-technology industries. This track has three components: training in the necessary mathematics to pursue a career in industrial mathematics, professional training to prepare for the environment of the industrial workplace, and a required experiential component.

CURRICULUM

The program consists of 36 credit hours of courses and internship. Students will work with an adviser to design a program of study, which will be presented to the program director for approval. If a student has an industrial sponsor, the student's program of study will be developed in consultation with a representative from his sponsoring company. Students are expected to obtain hands-on experience. The capstone requirement for this track is fulfilled by students completing an experiential learning requirement (3 credit hours). At least one-half of the program courses must be taken at the 6000 level.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor’s Degree

Prerequisites

The following courses are required as prerequisites to this track: Calculus with Analytic Geometry I, II, and III; Differential Equations; Linear and Matrix Algebra (or a course equivalent); proficiency in a computer language (C or MatLab); Advanced Calculus and Statistics.

Required Courses—24 Credit Hours

- MAP 5117 Mathematical Modeling I (3 credit hours)
- MAP 6385 Applied Numerical Mathematics (3 credit hours)
- MAP 6111 Mathematical Statistics (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)
- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours)
- MAA 5228 Analysis I (3 credit hours)
- MAP 6207 Optimization Theory (3 credit hours)
- MAA 6508 Hilbert Spaces with Applications (3 credit hours)

Mathematics Restricted Electives—3 Credit Hours

Student take one of the following courses:

- MAD 5205 Graph Theory I (3 credit hours)
- MAP 5336 Ordinary Differential Equations and Applications (3 credit hours)
- MAP 6356 Partial Differential Equations (3 credit hours)

Professional Development Restricted Electives—6 Credit Hours

Students take two of the following courses:

- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours)
- GEB 6115 Entrepreneurship (3 credit hours)
- GEB 6116 Business Plan Formation (3 credit hours)
- GEB 6518 Strategic Innovation (3 credit hours)
- MAN 5867 Small Business Consulting (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)

Experiential Requirement—3 Credit Hours

Students will demonstrate experience in the application of mathematics to industrial problems. This demonstration can be accomplished through the satisfactory completion of an industrial internship (MAP 6946), satisfactory performance at an approved workshop in industrial mathematics (MAP 6946), or through passing with a grade of "B" (3.0 grade point average) or better MAP 6168 Mathematical Modeling II. Students are required as part of the experiential requirement to deliver an oral presentation on the experience. Students are very strongly encouraged to fulfilll this requirement through an internship experience.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide an official, competitive GRE score taken within the last five years and a working knowledge of undergraduate calculus, differential equations, linear algebra (or matrix theory), boundary value problems, statistics, computer programming, and maturity in the language of advanced calculus (at the level of MAA 4226).

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.

- A working knowledge of undergraduate calculus, differential equations, linear algebra (or matrix theory), and maturity in the language of advanced calculus (at the level of MAA 4226).

Students who find they are not adequately prepared in one or more of the required mathematical subject areas can select appropriate courses from the undergraduate curriculum to make up such deficiencies. Such courses, unless specially approved, will not count toward the graduate degree. Applicants not qualified for regular status may be admitted initially to the university in a nondegree-seeking status. Transfer of credits from other programs will be considered on a course-by-course basis.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Industrial Mathematics	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Qiyu Sun
Professor
Program Director
qiyu.sun@ucf.edu
407-823-4839
PO Box 161364

Mathematical Science MS

Financial Mathematics

TRACK DESCRIPTION

The Financial Mathematics track in the Mathematical Science MS program prepares graduate students to pursue careers in the finance industry by providing them with high quality professional training in of mathematics applicable to finance.

This track has three components: training in the necessary mathematics to pursue a career in financial mathematics, professional training in financial mathematics, and a required experiential component.

CURRICULUM

The Financial Mathematics program consists of 30 credit hours of courses and internship. Students will work with an adviser to design a program of study, which will be presented to the program director for approval. If a student has an industrial sponsor, the student's program of study will be developed in consultation with a representative from the student's sponsoring company. Students are expected to obtain hands-on experience. The capstone requirement for this track is fulfilled by students completing an experiential learning requirement (3 credit hours). At least one-half of the program courses must be taken at the 6000 level.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor’s Degree

Prerequisites

The following courses are required as prerequisites to this track: Calculus with Analytic Geometry I, II, and III; Differential Equations; Linear and Matrix Algebra (or a course equivalent); proficiency in a computer language; Elementary Probability and Statistics. A summer program of two courses, which cannot be used as part of the program of study for this degree, is available for students who have deficiencies in these prerequisite areas.

Required Courses—21 Credit Hours

- MAP 5XXX Differential Equations for Financial Mathematics (3 credit hours)
- MAP 5XXX Computational Methods for Financial Mathematics I (3 credit hours)
- MAP 5XXX Financial Mathematics I (3 credit hours)
- MAP 5XXX Proseminar for Financial Mathematics (1 credit hours)
- MAP 6XXX Financial Mathematics II (3 credit hours)
- MAP 6XXX Computational Methods for Financial Mathematics II (3 credit hours)
- MAP 6XXX Risk Management for Financial Mathematics (3 credit hours)
- MAP 6XXX Seminar in Financial Mathematics (2 credit hours)

Restricted Electives—6 Credit Hours

Students take two of the following courses:

- FIN 6406 Strategic Financial Management (3 credit hours)
- FIN 6515 Analysis of Investment Opportunities (3 credit hours)
- MAP 6207 Optimization Theory (3 credit hours)
- STA 6857 Applied Time Series Analysis (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 5825 Stochastic Processes and Applied Probability Theory (3 Credit hours)

Experiential Requirement—3 Credit Hours

Students will demonstrate experience in the application of mathematics to industrial problems. This demonstration can be accomplished either through the satisfactory completion of an internship in financial mathematics (MAP 6946), or through satisfactory performance at an approved external/internal workshop in financial mathematics (MAP 6946). Students are required as part of the experiential requirement to deliver an oral presentation on the experience. Students are very strongly encouraged to fulfill this requirement through an internship experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- A working knowledge of undergraduate calculus, differential equations, linear algebra (or matrix theory), proficiency in a modern computer language, elementary probability and statistics.

Students who are not adequately prepared in one or more of the required prerequisite subject areas can make up such deficiencies through a summer remedial program. Such courses, unless specially approved, will not count toward the graduate degree. Applicants not qualified for regular status may be admitted initially to the university in a non-degree seeking status. Transfer of credits from other programs will be considered on a course-by-course basis.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Financial Mathematics	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 30		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Qiyu Sun
Professor
Program Director
qiyu.sun@ucf.edu
407-823-4839
PO Box 161364

Mechanical Engineering MSME

- Accelerated BS to MSME
- Mechanical Systems
- Thermofluids

PROGRAM DESCRIPTION

The Master of Science degree in Mechanical Engineering is primarily intended for students with a bachelor's degree in Mechanical or Aerospace engineering or a closely related discipline obtained from a recognized accredited institution. The program offers Mechanical Systems, Thermofluids and Accelerated BS to MS tracks.

CURRICULUM

The Mechanical Engineering program offers both thesis and nonthesis options in the Accelerated BS to MS, Mechanical Systems, and Thermofluids tracks. Each track requires 30 credit hours of courses, of which 24 credit hours must be formal course work, exclusive of thesis and research.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Students may choose from the following MSME tracks: Accelerated BS to MS, Mechanical Systems, and Thermofluids. Each track offers both thesis and nonthesis options with the thesis option requiring 24 credit hours of formal courses, and six credit hours of thesis. The nonthesis option requires 30 credit hours of courses.

All students must identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. Students should consult with the MAE Graduate Program Director for assistance in filling out their program of study. The program of study must be met with departmental approval.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program. Substitutions to the program of study must meet with the approval of the adviser and the department. More information is available from the MAE departmental website listed above.

For the Accelerated track, the Mechanical Engineering BS is awarded after completion of 120 university credit hours and 71 hours of engineering courses and all other university requirements, and the Mechanical Engineering MS is awarded upon completion of the master's program. Courses designated in General Education Program and Common Program Prerequisites are usually completed in the first 60 hours (see engineering major requirements in the Undergraduate Catalog).

Thesis

The thesis option requires 30 credit hours, at least half of which must be at the 6000 level and will include 6 credit hours of thesis credit. A student pursuing the thesis program may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website (www.cecs.ucf.edu) and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

At least 24 credit hours of the program of study must be course work, exclusive of thesis and research.

Nonthesis

The nonthesis option is primarily designed to meet the needs of part-time students and requires 30 credit hours of course work, at least one-half of which must be at the 6000 level. In addition, students pursuing the nonthesis option are required to take EML 6085 Research Methods in MMAE or EML 6918 Directed Research as part of their 30-credit-hour course requirement. At least 24 credit hours of these programs of study must be course work, exclusive of research and thesis credit hours.

Equipment Fee

Students in the Mechanical Engineering MSME program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 per semester.

INDEPENDENT LEARNING

The Independent Learning Requirement is met by successful completion of a master's thesis for the thesis option. The nonthesis option independent learning experience is provided by the required course, EML 6085 Research Methods in MAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, EML 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EML 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

MAE Department Graduate Seminar Requirement

The MAE Graduate seminar is a zero (0) credit hour (S/U) course that is offered each Fall and Spring academic semesters. All MAE graduate students who are pursuing the MSME are required to register, participate, and receive a satisfactory (S) grade for two (2) semesters of MAE Graduate seminar prior to graduation.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to meeting the general application requirements, applicants must provide a bachelor's degree in Mechanical or Aerospace Engineering or a closely related field, résumé, and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applicants must choose a track in this program. Track(s) may have different requirements.

Application Deadlines

Mechanical Engineering MSME	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Mechanical Engineering MSME

Accelerated BS to MSME

PROGRAM DESCRIPTION

The Master of Science degree in Mechanical Engineering is primarily intended for students with a bachelor's degree in Mechanical or Aerospace engineering or a closely related discipline obtained from a recognized accredited institution. The program offers Mechanical Systems, Thermofluids and Accelerated BS to MS tracks.

CURRICULUM

The BSME is awarded after completing all university requirements, including 128 total credit hours and 71 credit hours of engineering courses. The MSME is awarded upon completion of the master's program. Courses designated in General Education Program and Common Program Prerequisites are usually completed in the first 60 hours (see engineering major requirements in the Undergraduate Catalog).

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Up to 12 credit hours of approved graduate level courses of grades "B" (3.0) or better may be counted towards the BS and MS degrees. Additional notes on the Accelerated Undergraduate and Graduate Program in Mechanical Engineering are as follows:

- Students who change degree programs and select this major must adopt the most current catalog.
- Students must earn at least a "B" (3.0) in each undergraduate and graduate engineering course for them to be counted toward the major.

Undergraduate Requirements

Please see the current edition of the Undergraduate Catalog for additional information about this program.

Graduate Requirements

The Mechanical Engineering program requires a minimum of 30 credit hours beyond the bachelor's degree, and offers thesis and nonthesis options in two tracks, Mechanical Systems and Thermofluids. At least 24 credit hours of course work must be taken, exclusive of thesis and research. The thesis options require 24 credit hours of formal courses, and six credit hours of thesis. Accelerated Mechanical Engineering students must declare their interest in either the Mechanical Systems Track or the Thermofluids Track by completing a Program of Study with their adviser.

Additionally, all students pursuing the thesis option must enroll in the following course:

- EML 5936 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

The nonthesis options require 30 credit hours of courses, including completion of EML 6085 Research Methods in MMAE. For students who are not on campus and upon prior approval from the graduate coordinator, EML 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EML 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research.

Equipment Fee

Students in the Mechanical Engineering MSME program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 per semester.

INDEPENDENT LEARNING

The Independent Learning requirement is met by successful completion of a master's thesis for the thesis option. The nonthesis option independent learning experience is provided by the required course, EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and upon prior approval from the graduate coordinator, EML 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. In the case substitution EML 6918 is approved, a letter must be provided by the member of the faculty supervising the directed research certifying independent learning.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to meeting the general application requirements, applicants must provide a bachelor's degree in Mechanical or Aerospace Engineering or a closely related field, résumé, and a statement of educational, research, and professional career objectives.

The **Accelerated BS to MS** program in Mechanical Engineering allows highly qualified University of Central Florida undergraduate majors in Mechanical Engineering to begin taking graduate level courses that will count toward their master's degree while completing their baccalaureate degree program. Students apply for admission to the accelerated program in either their junior year or senior year. If the student has a degree in the discipline, but were not previously part of this accelerated program, then they should apply to either the **Mechanical Systems Track** or **Thermofluids Track**. Additional information about this track may be located at: http://www.cecs.ucf.edu/current-students/bs-ms-program.

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission. However, a pre-screening is not required; rather, it is offered as a courtesy to all prospective applicants before they commit to submitting a complete online application and paying an application processing fee.

Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Mechanical or Aerospace Engineering, or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Applicants should contact the MMAE graduate program director for more information.

Application Deadlines

Accelerated BS to MSME	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Mechanical Engineering MSME

Mechanical Systems

TRACK DESCRIPTION

The Master of Science degree in Mechanical Engineering is primarily intended for students with a bachelor's degree in Mechanical or Aerospace engineering or a closely related discipline obtained from a recognized accredited institution.

CURRICULUM

The Mechanical Systems track in the MSME program requires 30 credit hours, including 12 credit hours of required courses, 12 credit hours of elective courses selected from a list of approved courses, and 6 credit hours in a thesis or nonthesis option.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

All students must identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. Students should consult with the MMAE Graduate Program Director for assistance in completing the program of study form. The program of study must have departmental approval and must include at least 24 credit hours of formal course work, exclusive of thesis and research. Furthermore, at least half of the credit hours must be from courses at the 6000 level. Substitutions to the program of study must meet with the approval of the adviser and the department.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program and take additional prerequisites. More information is available from the MMAE departmental website listed above.

Prerequisites (or equivalent)

- Differential Equations (MAP 2302)
- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034C)
- Machine Design and Analysis (EML 3500) or Flight and Structures (EAS 4200)
- Vibration Analysis (EML 4220) or Space Structural Dynamics (EAS 4210)
- Experimental Techniques in Mechanics and Materials (EMA 3012C) or Solid Mechanics Lab (EGM 3601L) or Mechanical Systems Experimental Techniques (EML 4221C)
- Feedback Control (EML 4312C)

Required Courses—12 Credit Hours

- EML 5060 Mathematical Methods in Mechanical, Materials, and Aerospace Engineering (3 credit hours)
- EML 5237 Intermediate Mechanics of Materials (3 credit hours)
- EML 5271 Intermediate Dynamics (3 credit hours)
- EML 6211 Continuum Mechanics (3 credit hours)

Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of electives from the following list or from courses from other tracks. Electives should be chosen in consultation with the student's adviser.

- EML 6305C Experimental Mechanics (3 credit hours)
- EML 5311 System Control (3 credit hours)
- EML 5546 Engineering Design with Composite Materials (3 credit hours)
- EML 6068 Finite Elements in Mechanical and Aerospace Engineering II (3 credit hours)
- EML 6062 Boundary Element Methods in Engineering (3 credit hours)
- EML 6227 Nonlinear Vibration (3 credit hours)
- EML 5026C Advanced Engineering Design Practice (3 credit hours)
- EML 5066 Computational Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5228C Modal Analysis (3 credit hours)
- EML 5532C Computer-Aided Design for Manufacture (3 credit hours)
- EML 5572 Probabilistic Methods in Mechanical Design (3 credit hours)
- EML 6808 Analysis and Control of Robot Manipulators (3 credit hours)
- EML 6226 Analytical Dynamics (3 credit hours)
- EML 6233 Fundamentals of Fatigue Analysis (3 credit hours)
- EML 6547 Engineering Fracture Mechanics in Design (3 credit hours)

Thesis Option—6 Credit Hours

Thesis students must complete an independent research project, and write and successfully defend a thesis describing the project. Students may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

- EML 6971 Thesis (6 credit hours)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the college's website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Additionally, all students pursuing the thesis option must enroll in the following course:

- EML 5090 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

Nonthesis Option—6 Credit Hours

Nonthesis students are required to take EML 6085 Research Methods in MMAE (or EML 6918 Directed Research, with approval) as part of their 30-credit-hour course requirement. In addition, nonthesis students must take another elective beyond the 12 credit hours of electives described above.

- EML 6085 Research Methods in MMAE (3 credit hours)*
- Elective (3 credit hours)

* For students who are not on campus and with prior approval from the graduate program director, EML 6918, Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of EML 6918 is approved, a letter must be provided by the faculty member agreeing to supervise the directed research and certifying that the experience includes indentpendent learning.

Equipment Fee

Students in the Mechanical Engineering MSME program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 per semester.

INDEPENDENT LEARNING

The Independent Learning requirement is met by successful completion of a master's thesis for the thesis option. The independent learning experience in the nonthesis option is provided by the required course, EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and with prior approval from the graduate program director, EML 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of EML 6918 is approved, a letter must be provided by the faculty member agreeing to supervise the directed research and certifying that the experience includes independent learning.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

In addition to meeting the general application requirements, applicants must provide a bachelor’s degree in Mechanical or Aerospace Engineering or a closely related field, résumé, and a statement of educational, research, and professional career objectives. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

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Admissions decisions are made on the basis of a complete online application only, and not on the basis of any pre-screening. Prospective applicants who are encouraged to apply to their intended graduate program based on the information provided for their pre-screening are not assured of admission or financial assistance when they submit a complete online application. Although it is possible, it is not likely, that prospective applicants who are discouraged from formally applying to a graduate program at the pre-screening stage will be admitted if they elect to submit a complete online application anyway.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Mechanical or Aerospace Engineering, or a closely related discipline.
- Résumé.
- Statement of educational, research, and professional career objectives.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Faculty members may choose to conduct face-to-face or telephone interviews before accepting an applicant into their research program.

Additional courses may be required to correct deficiencies. Applicants should contact the MMAE graduate program director for more information.

Application Deadlines

Mechanical Systems	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Jihua Gou PhD
Professor
Program Director
jihua.gou@ucf.edu
407-823-2155
ENGR1 - 307

Mechanical Engineering MSME

Thermofluids

TRACK DESCRIPTION

The Master of Science in Mechanical Engineering is primarily intended for students with a bachelor's degree in Mechanical or Aerospace engineering or a closely related discipline obtained from a recognized accredited institution.

The program offers Mechanical Systems, Thermofluids and Accelerated BS to MS tracks.

CURRICULUM

The Thermofluids track in the MSME program requires 30 credit hours, including 12 credit hours of required courses, 12 credit hours of elective courses selected from a list of approved courses, and 6 credit hours in a thesis or nonthesis option.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

All students must identify an adviser and file an official degree program of study prior to the completion of 9 credit hours of study. The program of study must have departmental approval and students should consult with the MMAE Graduate Program Director for assistance in completing their program of study form. At least 24 hours of the program of study must include formal course work, exclusive of thesis and research, and at least half of the credit hours must be from courses at the 6000 level. Substitutions to the program of study must meet with the approval of the adviser and the department.

A student with an undergraduate degree outside of the selected departmental discipline may be required to satisfy an articulation program and take additional prerequisites. More information is available from the MMAE departmental website listed above.

Prerequisites (or equivalent)

- Differential Equations (MAP 2302)
- Modeling Methods in Mechanical and Aerospace Engineering (EML 3034C)
- Thermodynamics of Mechanical Systems (EML 3101)
- Measurements in Thermal Systems (EML 4304C)
- Fluid Mechanics II (EML 4703) or Propulsion Systems (EAS 4300)
- Heat Transfer (EML 4142)

Required Courses—12 Credit Hours

- EML 5060 Mathematical Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5152 Intermediate Heat Transfer (3 credit hours)
- EML 5713 Intermediate Fluid Mechanics (3 credit hours)
- EML 6104 Classical Thermodynamics (3 credit hours)

Elective Courses—12 Credit Hours

All students, both thesis and nonthesis, must take 12 credit hours of electives from the following list or from courses from other MMAE tracks. Up to 6 credit hours of electives could also be from other graduate courses offered in the College of Engineering and Computer Science. Students should confer with their advisers when choosing electives.

- EML 5402 Turbomachinery (3 credit hours)
- EML 6155 Convection Heat Transfer (3 credit hours)
- EML 6157 Radiation Heat Transfer (3 credit hours)
- EML 6725 Computational Fluid Dynamics and Heat Transfer I (3 credit hours)
- EML 6131 Combustion Phenomena (3 credit hours)
- EML 6154 Conduction Heat Transfer (3 credit hours)
- EAS 6185 Turbulent Flow (3 credit hours)
- EML 6712 Viscous Flow (3 credit hours)
- EAS 6138 Advanced Gas Dynamics (3 credit hours)
- EAS 5302 Direct Energy Conversion (3 credit hours)
- EAS 5315 Rocket Propulsion (3 credit hours)

- EML 5026C Advanced Engineering Design Practice (3 credit hours)
- EML 5066 Computational Methods in Mechanical, Materials and Aerospace Engineering (3 credit hours)
- EML 5105 Gas Kinetics and Statistical Thermodynamics (3 credit hours)
- EML 6062 Boundary Element Methods in Engineering (3 credit hours)
- EML 6158 Gaseous Radiation Heat Transfer (3 credit hours)
- EML 6144 Boiling and Condensation Heat Transfer (3 credit hours)
- EML 6726 Computational Fluid Dynamics and Heat Transfer II (3 credit hours)

Thesis Option—6 Credit Hours

Thesis students must complete an independent research project, and write and defend a thesis describing the project. Students may not register for thesis credit hours until an advisory committee has been appointed and the committee has reviewed the program of study and the proposed thesis topic.

- EML 6971 Thesis (6 credit hours minimum)

The College of Engineering and Computer Science requires that all thesis defense announcements be approved by the student's adviser and posted on the CECS website and on the Events Calendar at the College of Graduate Studies website at least two weeks before the defense date.

Additionally, all students pursuing the thesis option must enroll in the following course:

- EML 5090 Mechanical and Aerospace Seminar (0 credit hours)

Students must register for the seminar course a minimum of two times during their graduate career in the master's program (thesis option). The students must also complete the course with a satisfactory (S) grade in both attempts. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

Nonthesis Option—6 Credit Hours

Nonthesis students must take EML 6085 Research Methods in MMAE (or EML 6918 Directed Research, with approval) as part of their 30-credit-hour course requirement. Furthermore, they must take an additional elective beyond the 12 credit hours of electives described above.

- EML 6085 Research Methods in MMAE (3 credit hours)*
- Elective (3 credit hours)

* For students who are not on campus and with prior approval from the graduate program director, EML 6918, Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of EML 6918 is approved, a letter must be provided by the faculty member agreeing to supervise the directed research and certifying that the experience contains independent learning.

Equipment Fee

Students in the Mechanical Engineering MSME program pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 per semester.

INDEPENDENT LEARNING

The Independent Learning requirement is met by successful completion of a master's thesis for the thesis option. The independent learning experience in the nonthesis option is provided by the required course, EML 6085 Research Methods in MMAE (3 credit hours). For students who are not on campus and with prior approval from the graduate program director, EML 6918 Directed Research (3 credit hours) may be substituted as the student's independent learning experience. If the substitution of EML 6918 is approved, a letter must be provided by the faculty member agreeing to supervise the directed research and certifying that the experience includes independent learning.

APPLICATION REQUIREMENTS

The College of Engineering and Computer Science strongly encourages prospective applicants to request a free pre-screening (www.cecs.ucf.edu/prescreen) of their qualifications prior to submitting an online application for graduate admission.

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CONTACT INFO

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ENGR1 - 307

Modeling and Simulation MS

- Professional Science Master's

PROGRAM DESCRIPTION

Simulation is the quintessential utility tool. In one way or another, just about every engineering or scientific field uses simulation as an exploration, modeling, or analysis technique. Simulation is not limited to engineering or science. Simulation is used in training, management, and concept exploration and involves constructing human-centered, equipment-centered, and/or stand-alone computer-based models of existing as well as conceptual systems or processes. The purpose of simulation is to evaluate the behavior of the human, organization, equipment, and/or systems under study through the evaluation of output from the corresponding simulation construct. Because of the scale and complexity of modeling and simulation, practitioners have developed both generalized and specialized skills.

Input from industry and government M&S researchers and practitioners has been instrumental in identifying the key competencies for M&S professionals and has been critical to the development of this program. The curriculum is designed to provide a broad overall perspective of the developing simulation industry and an awareness of the economic considerations. Upon completion of the program, graduates will have the diverse training necessary to enable them to work in varied capacities in government agencies, or in the defense, service, entertainment, and manufacturing industries.

Graduates of the Modeling and Simulation MS degree program will:

- have an interdisciplinary core body of knowledge on modeling approaches, human factors, computing infrastructure, and visual representation and will be capable of critically reviewing the literature in the field;
- have developed the capacity to solve complex problems by building simulation models, designing and carrying out experiments, collecting data, analyzing results, and managing M&S programs; and
- be able to clearly communicate their findings to their peers.

Students in the Modeling and Simulation graduate program have often focused their study and research efforts in one or more of the following research areas:

Behavioral Cybersecurity

The Behavioral Cybersecurity in M&S research area has attracted those who wish to gain expertise in the latent cognitive aspects of security for computer systems, servers, mobile devices, networks, software, and network-enabled devices. Typical problem areas for behavioral aspects of cybersecurity include insider threats, hacker motivations, user training and education, digital ethics, cyber law and policy, senior leader education, and cyber workforce development and education. Typical courses include Behavioral Aspects of Cybersecurity, Cyber Operations Lab, Emerging Cyber Issues, Digital Ethics, Human Cognition and Learning, Cyber Crime and Criminal Justice, and Data Mining Methodology I.

Human Systems

The Human Systems in M&S research area has attracted those who wish to gain expertise in the content and techniques of human behavior in simulation systems, including human factors, human-computer interaction, virtual worlds, statistical and quantitative procedures, experimental design, computer techniques, and other research methodologies. Typical problem areas for R&D include human-in-the-loop simulation; team performance under stress; and use of visual, audio, haptic, and other sensory input/output modalities to coordinate human-machine activities. Typical courses include Human Factors, Training Systems Engineering, Human Computer Interaction, Intelligent Simulation, and Distributed Learning.

Computer Visualization

Computer Visualization in M&S is a research area that attracts those who wish to gain expertise in technical aspects of computer graphic systems, virtual environments, and human-centered simulation systems applying the state-of-the-art in computer graphics and other human-interface technologies. Typical courses include Human Computer Interaction, Computer Graphics Systems, Computer Vision, Machine Perception, Human-Virtual Environment Interaction, and Sensation and Perception. Students in this research area typically have an interest in the area of Emerging Media, which focuses on the development of new forms of interactive media and the creation of story-driven content for them such as interactive works of art, electronic games, virtual reality, the Internet, portable devices and mobile applications, wearable computers, etc.

Simulation Modeling and Analysis

The Simulation Modeling and Analysis research area attracts those who desire to gain expertise in using simulation as a optimization tool for effective design, planning, analysis, and decision-making. The emphasis of this area is on problem definition, model formulation, design of simulation experiments, and model-based analysis. This area attracts those who seek to develop skills in the application of advanced quantitative methods to modeling and simulation. Building on backgrounds in operations research, mathematics or statistics, they should gain experience in modeling and simulation through the application of optimization, mathematical and statistical theory to build multidisciplinary simulation models and conducting rigorous simulation experimentation. A graduate will be prepared to work with corporate and government decision-makers as they model and evaluate the impacts of proposed policies and system designs. Typical courses include Engineering Statistics, Statistical Aspects of Digital Simulation, and Mathematical Modeling, Discrete Systems Simulation, Object-Oriented Simulation, Experimental Design, and Quantitative Aspects of Modeling and Simulation.

Simulation in Healthcare

Simulation in Healthcare is a fast growing new area in M&S. Issues related to bringing down the cost of healthcare and reducing costly medical errors are generating many new opportunities related to systems analysis, communication between healthcare providers and patients, and simulation-based training, to name a few. Currently a disproportionate amount of the US economy goes to healthcare, at least twice as much as the average of the 25 richest nations, and health outcomes in the US place the country near the bottom of this group of countries. M&S can contribute significantly towards improving this situation. Typical courses include Discrete Systems Simulation, Experimental Design, and Object-Oriented Simulation, Engineering Statistics, Human Computer Interaction.

Interactive Simulation and Intelligent Systems

Interactive Simulation and Intelligent Systems research attracts those who wish to pursue or are currently pursuing careers in the training simulation/simulator industries. Graduates specializing in this research area typically are interested in creating designs for simulators and simulator-based training systems and to apply expert systems and other intelligent systems in a simulation setting. Typical courses include Training Systems Engineering, Simulation of Real-Time Processes, and Intelligent Simulation.

Simulation Infrastructure

The research area of Simulation Infrastructure attracts those who wish to gain an in-depth understanding of the basic components of simulation systems and their patterns of configuration and communication, including hardware and software issues. They will gain experience in the development of distributed simulation and training environments. Graduates should be able to implement such systems or manage a team capable of developing such systems. Typical courses include Performance Models of Computers and Networks, Simulation Design and Analysis, High Performance Computer Architecture, and Analysis of Computer and Communication Systems. Simulation Management: Simulation Management research area attracts those who wish to gain expertise in the management of projects related to modeling, simulation, and training (MS&T). Graduates who focus in this area of study should be prepared to manage such projects for military agencies or MS&T companies. Typical courses include Environment of Technical Organizations, Modeling and Simulation of Real-Time Processes, Management Information Systems, and Project Engineering.

Simulation Management

Simulation Management research area attracts those who wish to gain expertise in the management of projects related to modeling, simulation, and training (MS&T). Graduates who focus in this area of study should be prepared to manage such projects for military agencies or MS&T companies. Typical courses include Environment of Technical Organizations, Modeling and Simulation of Real-Time Processes, Management Information Systems, and Project Engineering.

CURRICULUM

The Modeling and Simulation Master of Science program requires a minimum of 30 credit hours beyond the bachelor’s degree.

The M&S MS program offers a thesis option and a nonthesis option. Each option requires 15 credit hours of required core courses.

- Students who select the thesis option must take 9 credit hours of unrestricted electives and 6 thesis credit hours.
- Students who select the nonthesis option must take 3 credit hours of restricted electives and 12 credit hours of unrestricted electives.

The culminating experience for thesis-option students in the MS program is the final thesis document and the oral defense of the thesis research.

The culminating, capstone experience for nonthesis students is a technical project, which requires a written and oral presentation of the work, completed as part of the required core course IDS 6916 Simulation Research Methods and Practicum. This project is reviewed by panel experts.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

Core—15 Credit Hours

Core courses provide an interdisciplinary framework for all Modeling and Simulation students. Teams of Modeling and Simulation program faculty teach these core courses. Course descriptions can be found in the Catalog Menu at the top of the page under the heading "Courses."

- IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)
- DIG 5876 Quantitative Aspects of Modeling and Simulation (3 credit hours)
- IDS 6148 Human Systems Integration for Modeling and Simulation (3 credit hours) or EIN 6258 Human Computer Interaction (3 credit hours) or EXP 6541 Advanced Human-Computer Interaction (3 credit hours)
- IDS 6145 Simulation Techniques (3 credit hours)
- Thesis Option: IDS 6262 Research Design for Modeling and Simulation (3 credit hours)
- Nonthesis Option: IDS 6916 Simulation Research Methods and Practicum (3 credit hours)

Unrestricted Electives—9 Credit Hours

All Modeling and Simulation MS students must take at least 9 credit hours of unrestricted electives that support the student's area of graduate study. Unrestricted electives must consist of at least 9 credit hours of formal courses, which may include independent study (up to 6 credit hours). The remaining credit may consist of additional thesis (for thesis option students only), directed research, and additional courses as advised appropriately by the faculty adviser and/or program director.

Thesis Option—6 Credit Hours

Thesis students are required to take an additional 6 credit hours of thesis.

- IDS 6971 Thesis (6 credit hours)

Nonthesis Option—6 Credit Hours

Restricted Elective—3 Credit Hours

Nonthesis students must select an elective course from the Modeling and Simulation Graduate Program. Appropriate courses include those that follow. Others may be added over time with Program Director approval.

- IDC 5602 Cybersecurity: A Multidisciplinary Approach (3 credit hours)
- IDC 6601 Behavioral Aspects of Cybersecurity (3 credit hours)
- IDC 6700 Interdisciplinary Approach to Data Visualization (3 credit hours)
- IDS 5142 Modeling and Simulation for Instructional Design (3 credit hours)
- IDS 6146 Modeling and Simulation Systems (3 credit hours)
- IDS 6149 Modeling and Simulation for Test and Evaluation (3 credit hours)
- IDS 6916 Simulation Research Methods and Practicum (3 credit hours)
- IDS 6938 Intelligent Tutoring System (ITS) Design (3 credit hours)

Unrestricted Electives—3 Credit Hours

Nonthesis students are required to take an additional 3 credit hours of unrestricted electives that support the student's area of graduate study.

Modeling and Simulation MS Electives

In addition to successfully enrolling and completing the core courses, students are required to carefully select electives with the guidance of a faculty adviser. Elective choices should be made with the intent to strengthen a research interest and/or area of focus in order to meet the individual student's educational goals and objectives.

Listed below are suggested courses in various areas of focus or specialization. These course groupings are mere guides, are not exhaustive and are only meant to assist with advising and course selection in order to meet the individual student's educational goals and objectives. They are not intended to restrict elective choices among focus areas as we strongly encourage Modeling and Simulation students to maintain an interdisciplinary approach to their graduate studies.

If a student identifies another UCF course which may be of value to his/her modeling and simulation research area, but is not already identified in a list below, he/she may request approval from the Graduate Program Director for the course to be used as an elective in the Graduate Plan of Study. All such requests must be made in advance of enrolling in the course.

Those electives categorized as "General" would be appropriate for all students regardless of focus area. The remaining categories are grouped by area of research interest.

General

- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6891 IEMS Research Methods (3 credit hours)
- IDS 5907 Independent Study (variable)
- IDS 5917 Directed Research (variable)
- IDS 6908 Independent Study (variable)
- IDS 6918 Directed Research (variable)
- IDS 6946 Internship (variable)
- IDS 7919 Doctoral Research (variable)
- PHI 5340 Research Methods in Cognitive Sciences (3 credit hours)
- PSY 6216C Research Methodology (4 credit hours)
- STA 5205 Experimental Design (3 credit hours)

Fundamentals of Modeling and Simulation

- EEL 5892 Continuous System Simulation II (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- ESI 6532 Object-Oriented Simulation (3 credit hours)
- IDC 6700 Interdisciplinary Approach to Data Visualization (3 credit hours)
- IDS 6146 Modeling and Simulation Systems (3 credit hours)
- IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)
- IDS 6149 Modeling and Simulation for Test and Evaluation (3 credit hours)
- IDS 6950 Modeling and Simulation Capstone Report Planning (1 credit hour)
- IDS 6XXX Simulation Techniques (3 credit hours)

Behavioral Cybersecurity

- CAP 6133 Advanced Topics in Computer Security and Computer Forensics (3 credit hours)
- CAP 6135 Malware and Software Vulnerability Analysis (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)

- CJE 6688 Cyber Crime and Criminal Justice (3 credit hours)
- CNT 5008 Computer Communication Networks Architecture (3 credit hours)
- CNT 5410L Cyber Operations Lab (3 credit hours)
- CNT 6519 Wireless Security and Forensics (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- DIG 5876 Quantitative Aspects of Modeling and Simulation (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- EXP 5256 Human Factors I (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- IDC 5602 Cybersecurity: A Multidisciplinary Approach (3 credit hours)
- IDC 6600 Emerging Cyber Issues (1 credit hour)
- IDC 6601 Behavioral Aspects of Cybersecurity (3 credit hours)
- IDS 6916 Simulation Research Methods and Practicum (3 credit hours)
- INR 6365 Seminar on Intelligence (3 credit hours)
- INR 6366 The Intelligence Community (3 credit hours)
- PHI 6938 ST: Digital Ethics (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 5825 Stochastic Processes and Applied Probability Theory (3 credit hours)

Human Systems

- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- EIN 5248C Ergonomics (3 credit hours)
- EIN 5248C Ergonomics (3 credit hours)
- EIN 5317 Training System Design (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)
- EME 6458 Virtual Teaching and the Digital Educator (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- EME 6646 Learning, Instructional Design, and Cognitive Neuroscience (3 credit hours)
- EXP 5208 Sensation and Perception (3 credit hours)
- EXP 5256 Human Factors I (3 credit hours)
- EXP 6255 Human Performance (3 credit hours)
- EXP 6257 Human Factors II (3 credit hours)
- EXP 6258 Human Factors III (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- EXP 6541 Advanced Human Computer Interaction (3 credit hours)
- IDS 6148 Human Systems Integration for Modeling and Simulation (3 credit hours)
- IDS 6149 Modeling and Simulation for Test and Evaluation (3 credit hours)
- PHI 5225 Philosophy of Language (3 credit hours)
- PHI 5325 Topics in Philosophy of Mind (3 credit hours)
- PHI 5327 Topics in Cognitive Sciences (3 credit hours)
- PHI 5329 Philosophy of Neuroscience (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)

Computer Visualization

- CAP 5725 Computer Graphics I (3 credit hours)
- CAP 6411 Computer Vision Systems (3 credit hours)

- CAP 6412 Advanced Computer Vision (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- CDA 5106 Advanced Computer Architecture (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 5825 Pattern Recognition (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EEL 6843 Machine Perception (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- IDC 6700 Interdisciplinary Approach to Data Visualization (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 6118 Introduction to Nonlinear Dynamics (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)

Quantitative Methods for Simulation, Modeling and Analysis

- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 5892 Continuous System Simulation II (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6217 Statistical Aspects of Digital Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- IDC 6700 Interdisciplinary Approach to Data Visualization (3 credit hours)
- IDS 6149 Modeling and Simulation for Test and Evaluation (3 credit hours)
- MAP 5117 Mathematical Modeling (3 credit hours)
- MAP 6111 Mathematical Statistics (3 credit hours)
- MAP 6118 Introduction to Nonlinear Dynamics (3 credit hours)
- MAP 6207 Optimization Theory (3 credit hours)
- MAP 6385 Applied Numerical Mathematics (3 credit hours)
- MAP 6407 Applied Mathematics I (3 credit hours)
- MAP 6408 Applied Mathematics II (3 credit hours)
- MAP 6445 Approximation Techniques (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 5825 Stochastic Processes and Applied Probability Theory (3 credit hours)
- STA 6236 Regression Analysis (3 credit hours)
- STA 6246 Linear Models (3 credit hours)
- STA 6326 Theoretical Statistics I (3 credit hours)
- STA 6327 Theoretical Statistics II (3 credit hours)
- STA 6329 Statistical Applications of Matrix Algebra (3 credit hours)
- STA 6704 Data Mining Methodology II (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)

Simulation in Healthcare

- CAP 6515 Algorithms in Computational Biology (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- HUM 5802 Applied Contemporary Humanities (3 credit hours)
- NGR 6717 Introduction to Healthcare Simulation (3 credit hours)
- NGR 6771L Healthcare Simulation Practicum (variable credit hours)
- NGR 6794 Organizational Leadership and Operations in Healthcare Simulation (3 credit hours)
- NGR 6978 Healthcare Simulation Capstone Project (3 credit hours)
- PHI 5329 Philosophy of Neuroscience (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- SPA 6417 Cognitive/Communicative Disorders (3 credit hours)
- SPA 6451 Theory and Clinical Aspects Cognitive-Comm Disorders in Traumatic Brain Injury (3 credit hours)
- SPA 6452 Assessment of Cognitive-Communication Disorders in Traumatic Brain Injury (3 credit hours)

Interactive Simulation and Intelligent Systems

- CAP 5512 Evolutionary Computation (3 credit hours)
- CAP 5610 Machine Learning (3 credit hours)
- CAP 5636 Advanced Artificial Intelligence (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- DIG 6812 Digital Interaction for Informal Learning (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours)
- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EIN 6647 Intelligent Simulation (3 credit hours)
- EIN 6649C Intelligent Tutoring Training System Design (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)
- IDS 6149 Modeling and Simulation for Test and Evaluation (3 credit hours)

Simulation Infrastructure

- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- CDA 5106 Advanced Computer Architecture (3 credit hours)
- CDA 6107 Parallel Computer Architecture (3 credit hours)
- CDA 6530 Performance Models of Computers and Networks (3 credit hours)
- CNT 5008 Computer Communication Networks Architecture (3 credit hours)
- COT 5405 Design and Analysis of Algorithms (3 credit hours)
- DIG 6605 Physical Computing (3 credit hours)
- EEL 5173 Linear Systems Theory (3 credit hours)
- EEL 5771C Engineering Applications of Computer Graphics (3 credit hours)

- EEL 5892 Continuous System Simulation II (3 credit hours)
- EEL 6762 Performance Analysis of Computer and Communication Systems (3 credit hours)
- EEL 6785 Computer Network Design (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EEL 6883 Software Engineering II (3 credit hours)
- EEL 6885 Software Engineering Quality Assurance Methods (3 credit hours)
- EEL 6887 Software Engineering Life-Cycle Control (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)

Simulation Management

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)
- EIN 5356 Cost Engineering (3 credit hours)
- EIN 6182 Engineering Management (3 credit hours)
- EIN 6215 System Safety Engineering and Management (3 credit hours)
- EIN 6339 Operations Engineering (3 credit hours)
- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- ESI 5227 Total Quality Improvement (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)
- IDC 6700 Interdisciplinary Approach to Data Visualization (3 credit hours)
- IDS 6149 Modeling and Simulation for Test and Evaluation (3 credit hours)
- ISM 6217 Advanced Database Administration (3 credit hours)
- ISM 7027 Systems Support of Organizational Decision Making (3 credit hours)

Plan of Study

After admission to the Modeling and Simulation MS program, students should file a Graduate Plan of Study (GPS) with the Modeling and Simulation Graduate Program Office.

The purpose of the GPS is to design an appropriate program of coursework to support a student's area of graduate study and to meet the specific educational needs, goals and objectives of that student. The coursework must be selected to form a unified, cohesive plan of study. The plan of study must have 50 percent of its content composed of 6000-level courses.

For thesis students, the GPS should be developed under the supervision of the thesis adviser(s) and members of the Thesis Advisory Committee, although initially it may be constructed under the supervision of the M&S Graduate Program Office. For nonthesis students, the plan of study should be developed under the supervision of the M&S Graduate Program Office.

Changes in the Graduate Plan of Study can be made (due to course offering deletions, schedule conflicts, etc.) and with the approval of the M&S Graduate Program Office.

Graduate Plans of Study for MS students should be on file with the College of Graduate Studies by the end of the student's second major term (based on full-time enrollment) and must be on file by the end of the term prior to the term of expected graduation.

Equipment Fee

Full-time students in the Modeling and Simulation MS program pay a $27 equipment fee each semester that they are enrolled. Part-time students pay a $13.50 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

IDS 6916 Simulation Research Methods and Practicum provides the independent learning experience for the Modeling and Simulation MS program.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide a résumé, two letters of recommendation, and a goal statement.

Students who enter the Master of Science in Modeling and Simulation program are expected to have an academic and/or work background that has prepared them in mathematics (introductory calculus and probability and statistics) and computer "literacy," including proficiency with word processing, spreadsheet, and database programs, and, preferably, familiarity with at least one higher order programming language (e.g., C++). Students with undergraduate degrees in Engineering, Computer Science, or Mathematics will generally have this background.

For students with less technical academic preparation, the core course IDS 5719 Introduction to Quantitative Aspects of Modeling and Simulation, will prepare them to pursue several, but not all, of the focus areas. For example, these students could pursue the Simulation Management or Human Systems focus areas, but would need a number of prerequisite courses in mathematics, statistics, and computer science to pursue focus areas such as Simulation Infrastructure. IDS 5719 Introduction to Quantitative Aspects of Modeling and Simulation has a math prerequisite of a one semester introductory to calculus course (e.g., MAC 2233 Concepts of Calculus or MAC 2241 Calculus for Life Sciences).

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vitae
- Goal statement
    - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Master's degree in Modeling and Simulation. Future educational and career goals after the completion of the applicant's master study should be discussed.
    - If the applicant is interested in completing a Master thesis, then the applicant must clearly describe the particular area of research interest. The applicant should identify at least one UCF faculty member who shares a similar research focus and is believed to be best suited to serve as a potential thesis advisor.
    - The goal statement should between 500 and 1,000 words.
- Two letters of recommendation

- The letters of recommendation should be from faculty members, university administrators and employers. The letters, which must be current to the application, should address the educational and career goals of applicant. The letter writers should also know the applicant well enough to discuss the applicant's capacity to perform, excel and succeed in a graduate program. Letters for Master's thesis students must discuss the applicant's ability to perform graduate-level research.

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applications are accepted for the fall and spring terms only.

Readmission

Applicants who are reapplying for admission need not resubmit transcripts and GRE scores if the transcripts and scores are previously on file with UCF. However, the following application requirements do need to be current for the new application for readmission:

- Résumé/Curriculum Vitae
- Goal Statement
- Letters of Recommendation

Prerequisites

Students who enter the Modeling and Simulation Program are expected to have an academic and/or work background that has prepared them in mathematics (introductory calculus and probability and statistics) and computer literacy, including proficiency with word processing, spreadsheet, and database programs, and, preferably, familiarity with at least one higher order programming language (e.g., C/C++, Visual Basic, Java, etc.). Students with undergraduate or graduate degrees in Engineering, Computer Science, or Mathematics will generally have this background.

For students with less technical academic preparation, the core course DIG 5876 Introduction to Quantitative Aspects of Modeling and Simulation, will prepare them for several, but not all, aspects of the program. However, some students may need a number of prerequisite courses in Mathematics, Statistics, and Computer Science in order to pursue one or more areas of study.

Application Deadlines

Modeling and Simulation MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Sabrina Gordon MA
Program Staff
sabrina.gordon@ucf.edu
407-882-1407
Partnership 2 Building, Room 131D

Modeling and Simulation MS

Professional Science Master's

TRACK DESCRIPTION

This program has been suspended and is not accepting applications effective with the Fall 2016 term. The Professional Science Master's (PSM) track in the Modeling and Simulation (M&S) Master of Science (MS) program is a course of study designed for working professionals and full-time students who wish to expand their knowledge and skills in the growing field of modeling and simulation. This degree can be pursued either full-time or part-time. The track's goal is to fill an important niche for training early- to mid-level technical professionals with interest in the field of modeling and simulation, and to meet strong workforce demands from the Central Florida region, the state of Florida and the nation.

The program of study includes a balanced course offering not only of technical courses in the science of modeling and simulation but it also includes advanced courses in business management and entrepreneurship. Elective offerings incorporate courses that are highly relatable to industries where modeling and simulation can be applied. This curriculum and the required internship should provide students with valuable workplace skills through academic and professional training in order to prepare graduates for career paths in the corporate world.

Courses are taught by an interdisciplinary faculty from the UCF Institute for Simulation and Training and nearly every academic college at UCF. The curriculum of courses is delivered via a mixture of face-to-face, fully online and mixed-mode instruction.

CURRICULUM

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

The curriculum of the Professional Science Master's track in the Modeling and Simulation MS program has been designed in part using valuable input from leaders in various industrial and governmental sectors of the modeling and simulation communities. Students are required to complete courses in modeling and simulation technical sciences, and business management and/or entrepreneurship. Students may then consider elective courses in highly relatable industries depending upon their career aspirations and graduate program advising.

The PSM track in the Modeling and Simulation MS program requires the completion of 36 credit hours beyond the bachelor's degree. At least 18 credit hours of courses must be at the 6000 level. The capstone requirement for this PSM track is fulfilled by students completing a 3-credit-hour graduate internship.

Required Courses—24 Credit Hours

Required Technical Courses—12 Credit Hours

- IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)

- IDS 6146 Modeling and Simulation Systems (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)

Required Business Management/ Entrepreneurial Courses—12 Credit Hours

Students may choose any combination of courses between General Business/ Management and Entrepreneurship to fulfill this requirement. Other courses not on the list may be considered for approval by the Graduate Program Director. All such requests must be made in advance of enrolling in the course.

General Business/ Management

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 5356 Cost Engineering (3 credit hours)
- INP 6058 Job Analysis and Performance Appraisal (3 credit hours)
- INP 6317 Work Motivation and Job Attitudes (3 credit hours)
- INP 6605 Training and Team Performance (3 credit hours)
- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAN 6305 Human Resources Management (3 credit hours)
- MAN 6448 Conflict Resolution and Negotiation (3 credit hours)
- MAR 6466 Strategic Supply Chain and Operations Management (3 credit hours)

Entrepreneurship

- GEB 5516 Technological Entrepreneurship (3 credit hours)*
- GEB 6115 Entrepreneurship (3 credit hours)
- GEB 6116 Business Plan Formation (3 credit hours)*
- GEB 6518 Strategic Innovation (3 credit hours)*

Students who successfully complete the three GEB courses marked with an asterisk (*) are eligible to receive the 9-credit-hour Graduate Certificate in Technology Ventures. These three courses focus on the successful development of the knowledge and skills needed to commercialize science and technology research. Those students interested in business opportunities enabled by scientific and technological innovations will find the coursework involving intellectual property issues, innovation commercialization processes, technology business strategies and business plan formation invaluable to their success.

Students desiring to obtain the Graduate Certificate in Technology Ventures must apply for the certificate program prior to enrolling in the third GEB course in order to be awarded the graduate certificate.

Elective Courses—9 Credit Hours

Students should carefully select electives with the guidance of a faculty adviser. Elective choices should be made with the intent to strengthen a professional interest and/or area of focus in order to meet the individual student's educational and professional goals and objectives.

Listed below are suggested courses in various areas of focus or specialization. These course groupings are mere guides, are not exhaustive, and are only meant to assist with advising and course selection in order to meet the individual student's educational goals and objectives. They are not intended to restrict elective choices among focus areas as we strongly encourage M&S PSM students to maintain an interdisciplinary approach to their graduate studies.

If a student identifies another UCF course that may be of value to his/her M&S interests, but is not already identified in a list below, he/she may request approval from the Graduate Program Director for the course to be used as an elective in the Graduate Plan of Study. All such requests must be made in advance of enrolling in the course.

Government/ Defense Contracting

- EIN 6528 Simulation Based Life Cycle Engineering (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)

Instructional Design for Entertainment and Education

- DIG 5137 Information Architecture (3 credit hours)
- DIG 6836 Design and Development for Texts and Technology (3 credit hours)
- DIG 6647 Science and Technology of Dynamic Media (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- ENC 6426 Visual Texts and Technology (3 credit hours)

Health Services Systems

- HSA 6119 Health Care Organization and Management (3 credit hours) - offered Spring
- PHC 6000 Epidemiology (3 credit hours) - offered Summer
- HSC 6636 Issues and Trends in the Health Professions (3 credit hours) - offered every semester

Nonprofit/ Public Policy

- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 5041 Ethics and Values in Public Administration (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)

Internship—3 Credit Hours

- IDS 6946 Graduate Internship (3 credit hours)

Additionally, all students pursuing the Professional Science Master's must enroll in the following course:

- IDS 5949 Co-op Ed/Work Experience (0 credit hours)

Students must register for IDS 6946 and IDS 5949 simultaneously. Students must complete the course with a satisfactory (S) grade. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

Equipment Fee

Students in the Modeling and Simulation MS program pay a $27 equipment fee each semester that they are enrolled. Part-time students pay $13.50 per semester.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Entering students are expected to have an appropriate technical background in engineering, computer science or other simulation-related disciplines, through academic preparation and/or work experience. Students should have completed the introductory undergraduate calculus course, and have proficiency in both statistics and a higher order programming language such as C++. The Graduate Record Examination (GRE) is not required.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vitae
- Goal Statement
    - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Professional Science Master's degree in Modeling and Simulation. Future career goals after the completion of the applicant's master study should be discussed.
    - The goal statement should between 500 and 1,000 words.
- Two letters of recommendation
    - The letters of recommendation should be from a faculty member, administrator or employer. The letters, which must be current to the application, should address the educational and career goals of applicant. The recommenders should also know the applicant well enough to discuss the applicant's capacity to perform, excel and succeed in a graduate program.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Readmission

Applicants who are reapplying for admission need not resubmit transcripts if the transcripts are previously on file with UCF. However, the following application requirements do need to be current for the new application for readmission:

- Résumé/Curriculum Vitae
- Goal Statement
- Letters of Recommendation

Application Deadlines

Professional Science Master's	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				
International Transfer Applicants				

CONTACT INFO

Sabrina Gordon MA
Program Staff
sabrina.gordon@ucf.edu
407-882-1407
Partnership 2 Building, Room 131D

Music MA

PROGRAM DESCRIPTION

The Master of Arts in Music program is intended to provide additional study and training in music to individuals who already hold a bachelor's degree in music or the equivalent.

The general nature of this degree allows students to pursue a variety of interests within music, such as performance, conducting, jazz studies, music education, and composition. The philosophy of this program is to provide graduate students with the advanced education, skills, and credentials to enhance their professional abilities and opportunities.

CURRICULUM

The Music MA program requires a minimum of 30-34 credit hours beyond the bachelor's degree. Students must take 11 credit hours of required music courses and 17 credit hours of elective courses. Both thesis and nonthesis options are available and students planning on pursuing a doctoral degree are encouraged to select the thesis option. Nonthesis students must take a Recital or Graduate Project course (2 credit hours) in addition to the 28 credit hours of coursework described above, and thesis students must complete a thesis project (6 credit hours).

Total Credit Hours Required:

30-34 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—11 Credit Hours

Note: The designation MUN 5XXX means that any 5000-level ensemble course will fulfill this requirement; similarly, MVX 5XXX means that any 5000-level applied music course in performance will fulfill this requirement.

- MUH 6916 Bibliography and Research Methods (3 credit hours)
- MUH 6935 Music History Seminar (3 credit hours)
- MUT 6621 Techniques and Concepts of Musical Analysis (3 credit hours)
- MUN 5XXX Ensemble Performance (two semesters, audition, 2 credit hours) or MVX 5XXX Performance (one semester; audition, 2 credit hours).

Elective Courses—17 Credit Hours

Restricted Electives in Music—9 Credit Hours

Course selections in this area will be in a cognate or area of emphasis with approval by program adviser (Performance, Conducting, Composition, Music History, Music Theory, Music Education, Jazz Studies, etc.). Students may not take non-repeatable graduate courses that are similar to courses taken at the undergraduate level.

- MUH 6935 Music History Seminar (3 credit hours)
- MUE 5348C K-12 Music Methods (4 credit hours)
- MUE 6175 Teaching Music Performance (3 credit hours)
- MUE 6349 Advanced General Music (3 credit hours)
- MUG 6106 Advanced Conducting I (3 credit hours)
- MUG 6306 Conducting VI (audition required) (2 credit hours)
- MVX 5XXX Performance V (audition required) (2 credit hours)
- MVX 6XXX Performance VI (audition required) (2 credit hours)
- MUC 5112 Composition V (portfolio required) (2 credit hours)
- MUC 6251 Composition VI (portfolio required) (2 credit hours)
- MUS 5677 Wellness for the Performing Musician (3 credit hours)
- MUT 5936 Music Theory Seminar (3 credit hours)
- MUH 5326 Medieval/Renaissance Music (3 credit hours)

- MUH 5345 Music of the Baroque (3 credit hours)
- MUH 5356 Eighteenth-Century Music (3 credit hours)
- MUH 5365 Nineteenth-Century Music (3 credit hours)
- MUH 5375 Music Since 1900 (3 credit hours)
- MUH 5816 Jazz Styles and Analysis (3 credit hours)
- MUS 5365 Music and Technology (3 credit hours)
- MUT 5381 Arranging and Composing Music (3 credit hours)
- MUM 5806 Performing Arts Management (3 credit hours)
- MUN 5478L Early Music Ensemble (1 credit hour). May be used in the degree program a maximum of five times.
- MUN 5368L Graduate Madrigal Singers (1 credit hour). May be used in the degree program a maximum of five times.
- MUN 5385L Graduate University Chorus (1 credit hour). May be used in the degree program a maximum of five times.
- MUN 5325 Graduate Women's Chorus (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5465L Graduate Chamber Music (1 credit hour). May be used in the degree program a maximum of five times.
- MUN 5145 Wind Ensemble (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5215 Symphony Orchestra (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5125 Concert Band (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5445 Percussion Ensemble (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5715L Jazz Ensemble (1 credit hour). May be used in the degree program a maximum of four times.
- MUN 5716L Jazz Chamber Group (1 credit hour). May be used in the degree program a maximum of four times
- MUO 5505L Graduate Opera Workshop (1 credit hour). May be used in the degree program a maximum of five times.

Restricted Elective Studies in Supportive Areas—8 Credit Hours

- 5000- or 6000-level music courses or non-music courses with approval of adviser; may include any new or repeatable courses from the sections above. Students may not take non-repeatable graduate courses that are similar to courses taken at the undergraduate level.
- MVO 5250 Advanced Secondary Instruction (1 credit hour)
- MUS 6908 Independent Study (1–3 credit hours)

Thesis Option—6 Credit Hours

Students planning to pursue a doctoral degree (in areas such as music theory, music education, or music history) are strongly encouraged to select the thesis option.

- MUS 6971 Thesis (6 credit hours)

Nonthesis Option—2 Credit Hours

The culminating experience may be a recital in performance, composition, or conducting (Graduate Recital); or a written project of smaller scope than a thesis; e.g., a portfolio or research paper (Graduate Project).

- MUS 6976L Graduate Recital (2 credit hours) or MUS 6975L Graduate Project (2 credit hours).

Additional Program Requirements

- Performance V and VI, Conducting VI, and ensembles all require an audition.
- Composition V and VI requires submission of a portfolio.
- No more than 6 credit hours of MUN courses may be counted toward the degree.
- A minimum of 15 credit hours applied to the degree must be at the 6000 level.

Equipment Fee

Students in the Master of Arts in Music Program pay a $90 equipment fee each semester that they are enrolled.

APPLICATION REQUIREMENTS

In addition to general admission requirements, applicants must provide a bachelor's degree in music or the equivalent, a formal writing sample of at least 1000 words, and two letters of recommendation. All students must meet with a faculty committee for an Admission Examination.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in music from a NASM accredited school or the equivalent.
- Two letters of recommendation.
- A formal writing sample of at least 1000 words, which should represent the applicant's best scholarly work. The topic should be on a musical subject.
- The MA Supplemental Application, which can be found on the department website or mailed at the applicant's request.
- An Admission Examination with a faculty committee. This examination will consist of an interview or audition or portfolio review as appropriate according to the applicant's goals. The applicant will consult with the Graduate Coordinator in advance to prepare for presentation in appropriate areas of interest to the candidate, such as performance, conducting, composition, music history, etc. It is highly recommended to attend this examination in person, although the use of audio and/or video recordings is possible, with the permission of the Graduate Coordinator. The faculty committee will evaluate the candidate and make a recommendation regarding admission to the Music Department Chair, who will make the final decision.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals and the applicant's potential for completing the degree.

Applicants may be given conditional admission, conditional to the imminent completion of the bachelor's degree and submission of a final transcript.

After acceptance and at the beginning of course work, students will take a diagnostic exam in Music Theory. If remedial course work is required in the case of deficiencies, this will not count toward the total hours for the degree.

Students may transfer up to nine hours of graduate credit from another accredited institution, subject to approval of adviser.

Application Deadlines

Music MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Keith Koons PhD
Professor
Program Director
keith.koons@ucf.edu

407-823-5116
PAC M208

Nanotechnology MS

PROGRAM DESCRIPTION

The Master of Science in Nanotechnology program provides students with scientific knowledge and research training in nanoscience and nanotechnology. The program prepares students for seeking employment in industry and academia involved in nanotechnology research, product development and commercialization, or to pursue advanced PhD degrees in related areas.

The Nanotechnology MS program consists of 30 credit hours of study that covers Fall, Spring and Summer consecutive academic terms. Admissions to the program occur in both the Fall and Spring semester of each year, and students are expected to finish the degree in two years.

The program of study includes a balanced course offering including interdisciplinary scientific courses and research training in the field of nanotechnology. The curriculum of courses is delivered via face-to-face instruction. The program includes 3 credit hours of independent study and 6 credit hours of thesis research under the supervision of a faculty at the NanoScience Technology Center. This training will provide students with hands-on research experiences on nanomaterial synthesis, nanostructure fabrication and characterization, and application development in their interested areas.

CURRICULUM

The Nanotechnology MS program consists of 30 credit hours of graduate courses including 12 credit hours of required (core) courses in nanotechnology, 9 credit hours of elective courses in physics, engineering, chemistry, biology or other related field, 3 credit hours of independent study, and 6 credit hours of thesis research.

From the core courses in nanotechnology and elective courses in related science/engineering areas, students will gain basic and broader understanding of the most advanced techniques, developments and applications of nanoscale materials and devices. From the independent study and thesis research training, the students will gain hands-on experiences to work on problems and product development involving nanoscience and nanotechnology.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

Core Courses—12 Credit Hours

Select four courses from the following list of courses.

- IDS 6250 Introduction to Nanoscience and Nanotechnology (3 credit hours)
- IDS 6254 Nanofabrication and Characterization (3 credit hours)
- IDS 6252 Biomedical Nanotechnology (3 credit hours)
- IDS 6255 Nanotechnology in Energy and Sustainability (3 credit hours)
- IDS 6253 Bioanalytical Technology (3 credit hours)

Independent Study—3 Credit Hours

Students will take 3 credit hours of independent study, resulting in a required research report of independent learning experience. Independent Study must have a formally defined core of knowledge to be learned by the student. In accordance with the policy of the College of Graduate Studies, the core of knowledge to be learned by the student must be specified in written form and approved by the student, the instructor, and the program coordinator prior to enrollment in Independent Study.

Elective Courses—9 Credit Hours

- EMA 5586 Photovoltaic Solar Energy Materials (3 credit hours)
- EMA 5060 Polymer Science and Engineering (3 credit hours)
- EMA 6518 Transmission Electron Microscopy (3 credit hours)
- EMA 5505 Scanning Electron Microscopy (3 credit hours)
- EMA 6605 Materials Processing Techniques (3 credit hours)
- EMA 5587C Characterization and Reliability of PV Cells (3 credit hours)
- PHY 5704 Physics of Nanoelectronic Devices (3 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- OSE 5312 Light Matter Interaction (3 credit hours)
- OSE 6938 ST: Photonic Polymer Materials (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- MCB 5225 Molecular Biology of Disease (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- IDS 6251 Computation, Simulation and Modeling in Nanotechnology (3 credit hours)
- IDS 6256 Principles of Nanostructure Quantum Well, Wires, and Dots (3 credit hours)
- IDS 6257 Fundamentals of Nano Biophysics (3 credit hours)
- IDS 6258 Advanced Materials for Rechargeable Batteries (3 credit hours)

Thesis—6 Credit Hours

Students will conduct and complete an independent thesis research project under the supervision of a NanoScience Technology Center faculty. The student will defend the thesis at the completion of the study. Students will gain hands-on research experiences on nanomaterial synthesis, nanostructure fabrication and characterization, and application development in their interested areas.

- IDS 6971 (6 credit hours)

APPLICATION REQUIREMENTS

Applicants should have obtained an undergraduate degree in one of the following areas: physics, chemistry, biology, or engineering.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vitae
- Goal Statement
    - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Professional Science Master's degree in Nanotechnology. Future career goals after the completion of the applicant's master study should be discussed.
    - The goal statement should between 500 and 1,000 words.

- Three letters of recommendation
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

The acceptance decision will be based on the assessment of the applicant's GPA from previous college/university, past work experience, recommendation letters and the statement of interest and objectives. Additionally, the committee will evaluate other academic indicators such as having completed a senior thesis, authorship on publications, internship, involvement in scientific research projects, and/or presentations at major scientific meetings and non-academic indicators such as evidence of leadership, extracurricular activities, work or military experience, and/or volunteer activities. For applicants that already have had working experiences in STEM (Science, Technology, Engineering, Mathematics) fields, emphasis will be placed on their past experiences and recommendation letters.

Readmission

Applicants who are applying for readmission need not resubmit transcripts if the transcripts are previously on file with UCF. However, the following application requirements do need to be current for the new readmission application:

- Résumé/Curriculum Vitae
- Goal Statement
- Letters of Recommendation

Application Deadlines

Nanotechnology MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec1	
International Applicants		Jan 15	Jul 1	
International Transfer Applicants		Mar 1	Sep 1	

CONTACT INFO

Qun Huo PhD
Associate Professor
Program Director
Qun.Huo@ucf.edu
407-882-2845
PVL 422

Nanotechnology Professional Science Master's

PROGRAM DESCRIPTION

The Professional Science Master's in Nanotechnology program provides students with scientific education in nanotechnology and professional training in business and technology entrepreneurship. The program prepares students with necessary skills for seeking employment in industry and academia involved in nanotechnology research, product development and commercialization.

The Professional Science Master's in Nanotechnology consists of 30 credit hours of graduate study that covers Fall, Spring and Summer consecutive academic terms. Admissions to the program occur in both the Fall and Spring semester of each year and students are expected to finish the degree in two years.

The program of study includes a balanced course offering including interdisciplinary technical courses in the field of nanotechnology and advanced courses in business management and technology entrepreneurship. The program also includes 3 credit hours of directed research and a 3-month internship training in one of our partnering industry and research organizations. After successfully completing the program, students will receive both a PSM degree in Nanotechnology and a Graduate Certificate in Technology Ventures. This sequence of training will provide students with valuable scientific knowledge, hands-on research experiences and business management skills to work efficiently and competitively in nanotechnology-oriented businesses and entities.

Scientific courses are taught by a team of interdisciplinary faculty from the UCF NanoScience Technology Center. Business management courses are taught by the faculty in the UCF College of Business Administration. The curriculum of courses is delivered via face-to-face instruction.

CURRICULUM

The Nanotechnology PSM program requires 30 credit hours at the graduate level, including 12 credit hours in Nanotechnology, 3 credit hours of an elective course in physics, engineering, chemistry or biology, 9 credit hours of professional development in a business certificate program (Graduate Certificate in Technology Ventures), 3 credit hours of research training, and 3 credit hours of internship training.

From the coursework in Nanotechnology and the other related science/engineering areas, students will gain basic knowledge as well as the most advanced developments and applications of nanoscale materials and devices. Through internship training, students will gain hands-on research and business experience in applying nanotechnology for new product development and commercialization. The Graduate Certificate in Technology Ventures focuses on the successful development of knowledge and skills needed to commercialize science and technology research. This comprehensive training program will prepare the students with the knowledge, management skills and mindset to pursue technology entrepreneurship or to work in industry that is poised to develop and commercialize new nanotechnology products.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—27 Credit Hours

Core Courses—12 Credit Hours

- IDS 6250 Introduction to Nanoscience and Nanotechnology (3 credit hours)
- IDS 6254 Nanofabrication and Characterization (3 credit hours)
- IDS 6253 Bioanalytical Technology (3 credit hours)
- IDS 6252 Biomedical Nanotechnology (3 credit hours)
- IDS 6255 Nanotechnology in Energy and Sustainability (3 credit hours)

Professional Training Courses / Graduate Certificate in Technology Ventures—9 Credit Hours

- GEB 5516 Technological Entrepreneurship (3 credit hours)
- GEB 6116 Business Plan Formation (3 credit hours)
- GEB 6518 Strategic Innovation (3 credit hours)

Directed Research—3 Credit Hours

Students will conduct an independent research project under the supervision of an NSTC faculty. Students will gain hands-on research experiences on anaomaterial synthesis, nanostructure fabrication and characterization, and application development in their areas of interest.

- IDS 6918 Directed Research (3 credit hours)

Internship—3 Credit Hours

Students will spend one summer or one semester working in industry to conduct research and business activities related to nanotechnology and product development.

- IDS 6946 Internship (3 credit hours)

Additionally, all students pursuing the Professional Science Master's must enroll in the following course:

- IDS 5949 Co-op Ed/ Work Experience (0 credit hours)

Students must register for IDS 6946 and IDS 5949 simultaneously. Students must complete the course with a satisfactory (S) grade. If the student does not complete the course with a satisfactory grade, the student will be asked to repeat the course to meet program requirements.

Elective Course—3 Credit Hours

- EMA 5586 Photovoltaic Solar Energy Materials (3 credit hours)
- EMA 5587C Characterization and Reliability of PV Cells (3 credit hours)
- PHY 5704 Nanoelectronic Devices (3 credit hours)
- OSE 5312 Light Matter Interaction (3 credit hours)
- OSE 6938 Photonic Polymer Materials (3 credit hours)
- IDS 5127 Foundation of Bio-imaging Science (3 credit hours)
- MCB 5225 Molecular Biology of Diseases (3 credit hours)
- PCB 5238 Immunobiology (3 credit hours)
- PCB 5236 Cancer Biology (3 credit hours)
- IDS 6251 Computation, Simulation and Modeling in Nanotechnology (3 credit hours)
- IDS 6256 Principles of Nanostructure Quantum Well, Wires, and Dots (3 credit hours)
- IDS 6257 Fundamentals of Nano Biophysics (3 credit hours)
- IDS 6258 Advanced Materials for Rechargeable Batteries (3 credit hours)

APPLICATION REQUIREMENTS

Applicants should have obtained an undergraduate degree in one of the following areas: physics, chemistry, biology, or engineering.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended
- Résumé or Curriculum Vitae
- Goal Statement
    - The goal statement should discuss all relevant professional background and any previous research and/or teaching experience. The statement should explain the motivation behind the pursuit of a Professional Science Master's degree in Nanotechnology. Future career goals after the completion of the applicant's master study should be discussed.
    - The goal statement should between 500 and 1,000 words.

- Three letters of recommendation
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Admission will be based on the assessment of the applicant's GPA from previous college/university, past work experience, recommendation letters and the statement of interest and objectives. Additionally, the committee will evaluate other academic indicators such as having completed a senior thesis, authorship on publications, internship, involvement in scientific research projects, and/or presentations at major scientific meetings and non-academic indicators such as evidence of leadership, extracurricular activities, work or military experience, and/or volunteer activities. For applicants that already have had working experiences in STEM fields, emphasis will be placed on their past experiences and recommendation letters.

Readmission

Applicants who are applying for readmission need not resubmit transcripts if the transcripts are previously on file with UCF. However, the following application requirements do need to be current for the new readmission application:

- Résumé/Curriculum Vitae
- Goal Statement
- Letters of Recommendation

Application Deadlines

Nanotechnology Professional Science Master's	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants		Jan 15	Jul 1	
International Transfer Applicants		Mar 1	Sep 1	

CONTACT INFO

Qun Huo PhD

Associate Professor
Program Director
Qun.Huo@ucf.edu
407-882-2845
PVL 422

Nonprofit Management MNM

- Out of State Cohort
- Public Administration MPA Dual Degree

PROGRAM DESCRIPTION

The nonprofit sector is the fastest growing area of the economy, and the completely online Master of Nonprofit Management MNM program prepares students for careers in this dynamic field. The degree program provides opportunities for students to prepare for employment or to advance their careers as administrators in nonprofit organizations.

The nonprofit sector is the fastest growing area of the economy, and the completely online Master of Nonprofit Management MNM program prepares students for careers in this dynamic field. The degree program provides opportunities for students to prepare for employment or to advance their careers as administrators in nonprofit organizations. The program is intended to produce graduates equipped with the management skills and analytical skills needed for successful careers in the nonprofit sector.

An Out of State Master in Nonprofit Management Cohort Track is available for students who are not Florida residents and who reside outside the state of Florida. The admission standards and degree requirements are the same as the traditional program. Students interested in the out-of-state Master of Nonprofit Management cohort should refer to that track for more information.

CURRICULUM

The Master of Nonprofit Management (MNM) program is offered completely online. Some courses may be offered face-to-face, however, students in this program are expected to have the ability to complete the coursework online. The program requires 30 credit hours of core courses, 3 credit hours of restricted electives and 3 credit hours of general electives, or 6 credit hours in the Nonprofit Leadership Alliance option.

The MNM program incorporates service learning in some of its courses. Service learning is hands-on learning that provides real-life experience in executing tangible projects such as strategic plans, grant proposals, and volunteer management case studies. It enhances the student's understanding of the course core concepts, helps develop leadership skills and provides networking opportunities with a community partner.

Some of the courses also involve group work intended to develop leadership abilities while providing an opportunity for the student to show his or her ability to be a team player. Group projects promote important intellectual and social skills and help to prepare students for professional work where teamwork and collaboration are necessary.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—27 Credit Hours

- PAD 5145 Volunteerism in Nonprofit Management (3 credit hours)
- PAD 5146 Nonprofit Resource Development (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 6237 Ethics and Governance in Nonprofit Management (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)

Capstone Course—3 Credit Hours

- PAD 6149 Nonprofit Administration (3 credit hours)

Restricted Elective—3 Credit Hours

This elective must be a UCF Public Administration 6000-level course that is chosen after consultation with the student's academic adviser.

- PAD 6000-level elective course (3 credit hours)

Electives Option—3 Credit Hours

- Electives (3 credit hours)

Students take one elective course in addition to the restricted elective (three credit hours each) with the prior approval of the program director. The elective courses are to be in the student's area of interest, such as public administration, criminal justice, health care, social work or the arts. The MNM program does not accept 4000-level courses.

National Nonprofit Leadership Alliance Certification Option—6 Credit Hours

National Nonprofit Leadership Alliance Certification:

- Internship (3 credit hours)*
- Elective (3 credit hours)

National Nonprofit Leadership Alliance (NLA) Certificate: The Nonprofit Leadership Alliance (NLA) represents the achievements of national academic and experiential standards in nonprofit management. Students pursuing the National Nonprofit Leadership Alliance Certification must meet the Nonprofit Leadership Alliance mandated requirements and contact the NLA Program Director, Dr. Stephanie Krick to declare their intent.

*An internship is required for students with less than 300 hours of nonprofit sector experience. Students who provide documentation of at least 300 hours of experience in the nonprofit sector may have their internship waived, but must complete an approved elective (3 credit hours) in place of the internship. Work experience does not count for credit toward the MNM program.

Additional Program Requirements

Students must achieve a grade of "B-" (80%) or better in every course listed under required courses. Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry, dialog and service learning. Students are encouraged to engage in research projects, scholarly papers, internships, and presentations at professional conferences that contribute to their self development. The final culminating experience for those enrolled in the Master of Nonprofit Management results in students taking and satisfactorily completing the Nonprofit Administration (PAD 6149).

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution with a minimum overall undergraduate GPA of 3.0 or better (on a 4.0 scale) or in the last 60 hours. Applicants must apply online. Students must submit all required materials by the established deadline. Materials received after the established deadline may not be considered. Admission to this graduate program is competitive; applicants meeting the minimum application requirements are not guaranteed admission to the program.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript meeting the minimum GPA requirement, in a sealed envelope, from each college/university attended.
- Three letters of recommendation are required. Letters of recommendation must specifically address the prospective student's ability to succeed in graduate coursework and his or her work ethic. Recommendation letters from professors are preferred however, letters from supervisors are also acceptable.
- Résumé: The most current, professional résumé should be provided.
- Statement of goals: This is a key component of the admission review process and serves as an example of the applicant's ability to express him or herself in writing. The goal statement must be no longer than two pages and should address the following:
    - What is your reason for pursuing graduate study in Nonprofit Management including your future goals and plans?
    - What specific areas of Nonprofit Management interest you?
    - Nonprofit sector experience is preferred, not required.
    - What makes you a special candidate for admission to this program?
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) orJosef Silny and Associates, Inc. only.

All requested material must be submitted by the established deadline date. Material received after the established deadline may not be considered. Admission to this program is competitive; applicants meeting the minimum admission requirements are not guaranteed admission to this program.

Students are expected to be computer literate upon entry to the program. This program is completely online so computer skills and internet access are necessary for this program.

A limited number of students who do not meet these requirements may be admitted on a provisional basis. These students must demonstrate proven nonprofit sector experience, present recommendations from either academic or professional advisers, and provide a clear statement of education goals.

Application Deadlines

Nonprofit Management MNM	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 15	Nov 1	
International Applicants		Jan 15	Jul 1	
International Transfer Applicants		Mar 1	Sep 1	

CONTACT INFO

Mary Ann Feldheim PhD
Associate Professor
Program Director
mfeldhei@ucf.edu
407-823-2604
Health and Public Affairs II 238

Nonprofit Management MNM

Out of State Cohort

TRACK DESCRIPTION

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

The nonprofit sector is the fastest growing area of the economy, and the completely online out-of-state cohort track in the Master of Nonprofit Management program prepares students for careers in this dynamic field.

The degree program provides opportunities for students to prepare for employment or to advance their careers as administrators in nonprofit organizations. The program is intended to produce graduates equipped with the management skills and analytical skills needed for successful careers in the nonprofit sector.

The Master in Nonprofit Management Cohort Track is designed specifically for students who are not Florida residents who reside outside the state of Florida. The admission standards and degree requirements are the same as the traditional program. Students interested in the out-of-state Master of Nonprofit Management cohort should contact the Nonprofit Management program director or advisor at the School of Public Administration at (407) 823-2604.

CURRICULUM

For Non-Florida Residents, Out-of-State Students

The Cohort track in the Master in Nonprofit Management is designed specifically for students who are not Florida residents. The admission standards and degree requirements are the same as the traditional program. Students interested in the out-of-state Master of Nonprofit Management cohort should contact the School of Public Administration.

The Master of Nonprofit Management (MNM) program incorporates service learning in some of its courses. Service learning is hands-on learning that provides real-life experience in executing a tangible project such as strategic plans, grant proposals, and volunteer management case studies. It enhances the student's understanding of the course core concepts, helps develop leadership skills and provides networking opportunity with a community partner.

Some of the courses also involve group work intended to develop leadership abilities while providing an opportunity for the student to show his or her ability to be a team player. Group projects promote important intellectual and social skills and help to prepare students for professional work where teamwork and collaboration are necessary.

Required Courses—27 Credit Hours

- PAD 5145 Volunteerism in Nonprofit Management (3 credit hours)
- PAD 5146 Nonprofit Resource Development (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 6237 Ethics and Governance in Nonprofit Management (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)

Capstone Course—3 Credit Hours

- PAD 6149 Nonprofit Administration (3 credit hours)

Restricted Elective—3 Credit Hours

All students must take a PAD 6000-level elective after consultation with their adviser.

- UCF PAD 6000-level elective course (3 credit hours)

Electives—3 Credit Hours

- Electives (3 credit hours)

Students take one elective course (three hours) in addition to the restricted elective with the prior approval of the program director. The elective courses are to be in the student's area of interest, such as public administration, criminal justice, health care, social work or the arts. The MNM program does not accept undergraduate-level courses.

NOTE: Students in the MNM Out of State Cohort track pursuing the Graduate Certificate in Fundraising simultaneously are restricted to PAD 6235 and PAD 6237 as two of the three electives.

National Nonprofit Leadership Certificate Option—6 Credit Hours

- Internship* (3 credit hours)
- Elective (3 credit hours)

The Nonprofit Leadership Alliance represents the achievements of national academic and experiential standards in nonprofit management. Students pursuing the Nonprofit Leadership Certification must meet the Nonprofit Leadership Alliance mandated requirements, including a 300-hour internship or documentation of employment history in the nonprofit sector. Please contact Program Director Dr. Stephanie Krick for additional requirements.

Students must achieve a grade of "B-" (80%) or better in every course listed under required courses. Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

*An internship is required for students with less than 300 hours of nonprofit sector experience. Students who provide documentation of at least 300 hours of experience in the nonprofit sector may have their internship waived, but must complete an approved elective (3 credit hours) in place of the internship. Work experience does not count for credit toward the MNM program.

Cost Per Credit Hour

For students in this Master of Nonprofit Management Cohort, the cost per credit hour is $440.62 for out-of-state students. Tuition is subject to change.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry, dialogue and service learning. Tangible projects such as strategic plans, grant proposals, and volunteer management case studies along with research projects, scholarly papers, internships, and presentations at professional conferences also contribute to the self development of our students. The final culminating experience for those enrolled in the Master of Nonprofit Management results in students taking and satisfactorily completing the Program Evaluation course (PAD 6327).

APPLICATION REQUIREMENTS

In addition to meeting general admission requirements, applicants must provide three letters of recommendation, a résumé, and a goal statement. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only. Admission is open to those with a bachelor's degree from a regionally accredited institution with a minimum overall undergraduate GPA of 3.0 (on a 4.0 scale) or in the last 60 hours.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
    - Undergraduate transcripts indicating the minimum GPA requirement listed below.
- Three letters of recommendation specifically for the MNM program. Letters of recommendation must specifically address the prospective student's ability to succeed in graduate coursework and his or her work ethic. Recommendation letters from professors are preferred however, letters from supervisors are also acceptable.
- Résumé: The most current, professional résumé should be provided.
- Statement of goals: This is a key component of the admission review process and serves as an example of the applicant's ability to express him or herself in writing. The goal statement must be no longer than two pages and should address the following:
    - Reason for pursuing graduate study in Nonprofit Management including future goals and plans.
    - Specific areas of Nonprofit Management of interest to the applicant.
    - Nonprofit sector experience is preferred, not required.
    - What makes the applicant a special candidate for admission to this program.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Admission is open to those with a bachelor's degree from a regionally accredited institution with a minimum overall undergraduate GPA of 3.0 (on a 4.0 scale) or GPA of 3.0 in the last 60 hours of the undergraduate degree coursework. Admission to this degree is competitive; applicants meeting the minimum university and/or program application requirements are not guaranteed admission to the program.

All requested material must be submitted by the established deadline date. Materials received after the established deadline may not be considered.

This program is completely on-line. Students are expected to be computer literate upon entry to the program.

Application Deadlines

Out of State Cohort	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 15	Nov 1	
International Applicants		Jan 15	Jul 1	
International Transfer Applicants		Mar 1	Sep 1	

CONTACT INFO

Mary Ann Feldheim PhD
Associate Professor
Program Director
mfeldhei@ucf.edu
407-823-2604
Health and Public Affairs II 238

Nonprofit Management MNM

Public Administration MPA Dual Degree

TRACK DESCRIPTION

The Nonprofit Management MNM - Public Administration MPA Dual Degree Track provides the opportunity for students to earn graduate degrees from two academic programs, the Master of Nonprofit Management and the Master of Public Administration, concurrently.

Students successfully completing this MNM/MPA Dual Degree program will have the skills and analytical techniques for successful careers in both the public and nonprofit sectors. The program emphasizes nonprofit management and public administration research, theory, policy and organizational administration to prepare future public service organizational leaders in public, nonprofit, social service, and private organizations. After successful completion of the MNM/MPA Dual Degree program, students will receive two diplomas - one for the Nonprofit Management MNM degree and one for the Public Administration MPA degree.

Students seeking admission to the MNM/MPA Dual Degree program should apply directly to the Dual Degree track of either the Public Administration MPA program or the Nonprofit Management MNM program. Only one application will be required. If admitted, student will be active in the Dual Degree tracks of both the Public Administration MPA and the Nonprofit Management MNM programs.

Students previously admitted to the Public Administration MPA or the Nonprofit Management MNM program should consult with their adviser prior to completing 18 credit hours if interested in the MNM/MPA Dual Degree program.

CURRICULUM

The dual degree track (Master of Public Administration / Master of Nonprofit Management) consists of 54 credit hours. Each student completes all of the core courses for each program with 18 required core courses (54 credit hours), including two research methods and statistics courses (6 credit hours) and a capstone experience of two courses (6 credit hours).

Courses and credit hours used for undergraduate degrees cannot be counted toward the MPA/MNM track, except for Senior Scholar students who, with the permission of the MPA/MNM program director, may use up to 9 credit hours of graduate course work in both their undergraduate degree and the dual degree program. No undergraduate-level courses will be accepted in the MPA/MNM dual degree track.

The dual degree program incorporates service learning in some of its courses. Service learning is hands-on learning that provides real life experience in executing tangible projects such as strategic plans, grant proposals, and volunteer management case studies. It enhances the student's understanding of the course core concepts, helps develop leadership skills and provides networking opportunity with a community partner.

Total Credit Hours Required:

54 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—54 Credit Hours

Core—42 Credit Hours

- PAD 5145 Volunteerism in Nonprofit Management (3 credit hours)
- PAD 5146 Nonprofit Resource Development (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- PAD 6037 Public Organization Management (3 credit hours)
- PAD 6053 Public Administrators in the Governance Process (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6207 Public Financial Management (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6327 Public Program Evaluation (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)

Research Methods/Statistics Core Requirments—6 Credit Hours

- PAD 6700 Research Methods in Public Administration (3 credit hours)
- PAD 6701 Analytic Techniques for Public Administration (3 credit hours)

Capstone—6 Credit Hours

- PAD 6062 Advanced Concepts and Applications in Public Administration (3 credit hours)
- PAD 6149 Nonprofit Administration (3 credit hours)

Students will engage in a capstone experience that builds upon the knowledge and skills gained from completing the core courses. Students will complete this requirement through enrollment in PAD 6062 Advanced Concepts and Applications in Public Administration and PAD 6149 Nonprofit Administration. PAD 6062 is only offered in fall and spring semesters and should be taken following the completion of all core courses.

Additional Program Requirements

Students must achieve a grade of "B-" (80%) or higher in every course listed under core requirements and in the Capstone Experience (PAD 6062). Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum, through the process of inquiry and dialogue. Tangible projects, such as research scholarly papers, internships, and the capstone experience also contribute to the self-development of MPA students. The research study and final report in the Capstone Experience will focus on reviewing and analyzing contemporary research in a student's particular specialization within the profession in order to help students acquire knowledge and skills pertaining to research-based best practices in that specialization area. PAD 6062, the capstone course, provides the independent learning experience.

APPLICATION REQUIREMENTS

In addition to meeting general admission requirements, applicants must provide three letters of recommendation, a résumé, and a goal statement. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only. Admission is open to those with a bachelor's degree from a regionally accredited institution with a minimum overall undergraduate GPA of 3.5 (on a 4.0 scale) or in the last 60 hours.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation. Letters of recommendation must specifically address the applicant's ability to succeed in graduate coursework and his or her work ethic. Recommendation letters from professors are preferred however, letters from supervisors are also acceptable.
- Résumé: The most current, professional resume should be provided.
- Statement of goals: This is a key component of the admission review process and serves as an example of the applicant's ability to express him or herself in writing. The goal statement must be no longer than two pages and should address the following:
    - Reason for pursuing graduate study in Public Administration and Nonprofit Management, including future goals and plans.
    - Specific areas of Public Administration and Nonprofit Management of interest.
    - Relevant experience, paid or as a volunteer (required).
    - What makes the applicant a special candidate for admission to this limited access program.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- All International students must meet university minimum TOEFL score requirements regardless of language in which the undergraduate program was completed.

Admission to this dual degree option is limited; applicants meeting the minimum university and/or program application requirements are not guaranteed admission to the program.

All requested material must be submitted by the established deadline date. Materials received after the established deadline may not be considered.

Much of the coursework for this program will be on-line. Students are expected to be computer literate upon entry to the program and to have access to internet.

Application Deadlines

Public Administration MPA Dual Degree	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 15	Nov 1	
International Applicants		Jan 15	Jul 1	
International Transfer Applicants		Mar 1	Sep 1	

CONTACT INFO

Mary Ann Feldheim PhD
Associate Professor
Program Director
mfeldhei@ucf.edu
407-823-2604
Health and Public Affairs II 238

Nursing MSN

- Family Nurse Practitioner
- Leadership and Management
- Adult-Gerontology Primary Care Nurse Practitioner
- Nurse Educator
- Adult-Gerontology Acute Care Nurse Practitioner
- Nursing and Health Care Simulation

PROGRAM DESCRIPTION

The Master of Science in Nursing (MSN) programs build upon the student's baccalaureate nursing education and professional experience. The Master of Science in Nursing program is accredited by the Commission on Collegiate Nursing Education (CCNE).

The College of Nursing also offers admission to its master degree programs in nursing to Registered Nurses who have bachelor degrees in fields other than nursing. These students will need to take 9 credits of undergraduate upper division course work as prerequisite for graduate study in nursing. Please contact gradnurse@ucf.edu for more information.

The goal of the Master of Science in Nursing program is to prepare advanced practice nurses, nurse educators, and nursing leaders and managers to assume leadership positions in a variety of health care settings. Graduates of these programs are eligible to sit for national certification examinations in their respective specialties.

Program Objectives

The programs prepare students to:

- Analyze social, economic, ethical, cultural, legal, and political issues influencing nursing practice and health care in a global context.
- Collaborate with leaders in nursing and other disciplines to improve the quality of professional nursing practice and the health care system.
- Develop and implement leadership, management, and teaching strategies for the improvement of health and health care.
- Develop practice models of evidence-based nursing practice incorporating nursing research.
- Influence health and public policy to improve health of communities.

- Participate in lifelong learning activities.
- Participate in research and disseminate research findings through presentation and publication.
- Synthesize advanced knowledge from the sciences, humanities, and nursing theories to support advanced nursing practice.
- Plan, evaluate and implement the delivery of health care using critical thinking skills.
- Practice in an advanced nursing role.

The College also offers an RN to MSN plan of study that provides an accelerated program for RNs (registered nurses) who do not hold a baccalaureate degree but have met general educational requirements. Students admitted under this plan of study will complete requirements for both the BSN and MSN programs. See RN to MSN program below for more information. A separate application to the graduate program will be required upon completion of the BSN degree. Admission to the MSN program is competitive and not guaranteed.

CURRICULUM

Depending on the track, students must complete a minimum of 36-46 credit hours of graduate-level course work. Details about this program are located in the Nursing MSN Handbook.

- Nursing Leadership and Management—36 Credit Hours
- Nurse Educator—38 Credit Hours
- Family Nurse Practitioner—-46 Credit Hours
- Adult-Gerontology Primary Care Nurse Practitioner—42 Credit Hours

Total Credit Hours Required:

36-46 Credit Hours Minimum beyond the Bachelor's Degree

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 Evidence Based Nursing Practice (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the student's MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

Unsatisfactory Grade in MSN Courses

All MSN coursework must be completed with a B or higher to progress in the program. Students that receive a grade below B are subject to dismissal All grades below B must be reviewed by the Master's Admissions, Progression and Graduation (APG) Committee for continuation in the MSN program.

College of Nursing Master's Program Handbook

All master's students are required to read the College of Nursing Master's Program Handbook regarding policies for each program and for academic progression. Information about each program particularly clinical placements and forms for appeals to the Master's APG Committee are located in the Nursing MSN Handbook.

Equipment Fee

Full-time students in the Master of Science in Nursing programs pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 each semester.

RN to MSN Program

See also the Undergraduate Catalog: Nursing - RN to BSN Program (BSN).

The RN to MSN program is for RNs who do not yet hold a baccalaureate degree in Nursing (BSN) or any other discipline. Students will meet both the BSN and MSN objectives after separate applications to both degree programs are accepted and the programs are successfully completed. The program is designed to allow undergraduate students who have met undergraduate general education requirements and have demonstrated above-average performance in prior undergraduate course work (minimum of 3.0 grade point average) to take up to 9 credit hours of graduate coursework during the last terms of the undergraduate program and prior to official admission to the graduate program. PLEASE NOTE: Two applications are required. One application is required for the BSN through Undergraduate Admissions and another application for the MSN through the College of Graduate Studies is made towards the end of the BSN program.

This program is available for two MSN tracks: Nursing Leadership and Management Track and Nurse Educator Track. Up to 9 credit hours of graduate course work taken while in the BSN program can be applied to the Nursing Leadership and Management Track and Nurse Educator Track in the MSN program.

Courses Taken Toward BSN

As part of the undergraduate curriculum leading to the BSN and in preparation for the MSN:

- NUR 3805 Dimensions of Professional Nursing Practice (3 credit hours)
- NUR 3165 Nursing Research (3 credit hours)
- NUR 3634 Community Health Nursing (3 credit hours)
- NUR 4637 Public Health Nursing (2 credit hours)
- NUR 4604L Practicum in Community and Public Health Nursing for RNs (4 credit hours)
- NUR 4837 Health Care Issues, Policy, and Economics (3 credit hours)

Students in the Leadership and Management Track take:

- NUR 4827 Leadership and Management Principles (3 credit hours)

Students in Nurse Educator Track take:

- NUR 3065 and 3065L Health Assessment (3 credit hours)

Courses Shared BSN/MSN

An individualized plan of study is developed for each student admitted to the RN to BSN option by an undergraduate adviser to include graduate coursework. Students intending to pursue the MSN in the Nursing Leadership and Management track must take the following courses:

- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 5871 Health Care Informatics (3 credit hours) (for undergraduate elective)
- NGR 5800 Theory for APN (3 credit hours) or NGR/HAS graduate elective in area of concentration (e.g., nursing, health services administration for nursing elective) OR NGR 6722 Financial Management and Resource Development (Summer only).

Students intending to pursue the MSN in the Nurse Educator track must take the following courses:

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)

- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (for undergraduate nursing elective and prerequisite for NGR 5003 and NGR 5003L) (3 credit hours)
- NGR 5800 Theory for APN (3 credit hours)

The baccalaureate degree will be awarded when program requirements for the BSN are met and students have completed a minimum of 120 hours of credit.
Grades below B will not be accepted for the MSN degree requirements.

Courses Taken Toward MSN

Students will follow the degree requirements of the selected MSN track upon application through the College of Graduate Studies and formal acceptance into the program. Students must apply online to the UCF College of Graduate Studies for admission to the MSN program. The MSN will be awarded on completion of the total program of study. Students who do not meet ongoing program requirements or decide not to continue in the program may withdraw from the RN to MSN plan and complete course work for the BSN degree. The MSN tracks require students to complete a different number of hours depending upon the track:

- Nursing Leadership and Management—36 Credit Hours
- Nurse Educator—38 Credit Hours

Non-Nursing Baccalaureate Program

In addition to the MSN for students holding a baccalaureate nursing degree, the College of Nursing also offers admission to its master's degree programs in nursing to Registered Nurses who have bachelor's degrees in fields other than nursing. These students will need to take 8 credits of undergraduate upper division course work that is prerequisite for graduate study in nursing. An undergraduate statistics course will also be required if not completed in the bachelor's degree. Please contact gradnurse@ucf.edu for more information on how to apply.

The undergraduate courses required prior to graduate course work are:

- NUR 3165 Nursing Research (3 credit hours)
- NUR 3805 Dimensions of Professional Nursing Practice (3 credit hours)
- NUR 4637 Public Health Nursing (3 credit hours)

INDEPENDENT LEARNING

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the students MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

APPLICATION REQUIREMENTS

Students must choose a track to apply for the MSN program. All tracks contain the same base admission requirements listed below, however, please review the Catalog entry for your track of interest and additional application requirements.

The following application information is provided for applicants who have completed a bachelor's degree. (For applicants without a bachelor's degree interested in the RN to MSN Program please contact the College of Nursing Undergraduate Office at UCFnurse@ucf.edu for an advising appointment). In addition to the general UCF graduate application requirements applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution.*
- Undergraduate Statistics course.
- Florida license required for all students who will be taking clinical and practice courses in Florida health care agencies and institutions. For those students at a distance, a license is required in the state or country in which they practice.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of a graduate nursing education in your desired track on the evolution of your professional role.
    - Describe the path you will take to ensure success in your graduate nursing education.
    - Identify one significant contemporary issue/ problem in U.S. health care and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with an MSN adviser to discuss your goals for graduate study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for Master's-level preparation for advanced nursing practice.

*For RNs with a Bachelor's degree in a discipline other than nursing, please contact the College of Nursing Graduate Office at gradnurse@ucf.edu for additional options.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

CONTACT INFO

Susan Chase EdD
Associate Dean
College Coordinator
gradnurse@ucf.edu
407-823-2744
Suite 300

Nursing MSN

Family Nurse Practitioner

TRACK DESCRIPTION

The Master of Science in Nursing (MSN) program in the Family Nurse Practitioner Track prepares nurses for advanced primary care practice in the current healthcare environment based on a strong scientific foundation for practice, flexibility, and emphasis on evidence-based practice and leadership.

The MSN Family Nurse Practitioner Track allows students to sit for certification examinations when they have completed the list of courses required. Certification authorizes them to function in the advanced role. Enrolling in the DNP program is an option after completion of the MSN. The program can be completed in 6 semesters as a full time student or 8 semesters as a part time student.

Program Objectives

The program prepare students to:

- Analyze social, economic, ethical, cultural, legal, and political issues influencing nursing practice and health care in a global context.
- Collaborate with leaders in nursing and other disciplines to improve the quality of professional nursing practice and the health care system.
- Develop and implement leadership, management, and teaching strategies for the improvement of health and health care.
- Develop practice models of evidence-based nursing practice incorporating nursing research.
- Influence health and public policy to improve health of communities.
- Participate in lifelong learning activities.
- Participate in research and disseminate research findings through presentation and publication.
- Synthesize advanced knowledge from the sciences, humanities, and nursing theories to support advanced nursing practice.
- Plan, evaluate and implement the delivery of health care using critical thinking skills.
- Practice in an advanced nursing role.

The College of Nursing also offers admission to its master degree programs in nursing to Registered Nurses who have bachelor degrees in fields other than nursing. These students will need to take 8 credits of undergraduate upper division course work as prerequisite for graduate study in nursing. Please contact gradnurse@ucf.edu for more information.

The College also offers an RN to MSN plan of study that provides an accelerated program for RNs who do not hold a baccalaureate degree but have met general educational requirements. Students admitted under this plan of study will complete requirements for both the BSN and MSN programs. See RN to MSN program below for more information. A separate application to the graduate program will be required upon completion of the BSN degree. Admission to the MSN program is competitive and not guaranteed.

CURRICULUM

The MSN Family Nurse Practitioner Track requires a minimum of 46 credit hours beyond the baccalaureate degree with 720 hours of clinical practicum. The part-time plan of study for the MSN can be completed in 6 semesters and the full-time plan of study in 4 semesters.

Total Credit Hours Required:

46 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisite Courses—9 Credit Hours

Students with a bachelor's degree in a discipline other than nursing will be required to take the following courses prior to taking required program courses. Consistent with graduate nursing program policies, courses must be completed with a grade of 'B' or better.

- NUR 3805 Dimensions of Professional Practice (3 credit hours)
- NUR 4637 Public Health Nursing (3 credit hours)
- NUR 3165 Nursing Research (3 credit hours)

Required Courses for the MSN—46 Credit Hours

Core Courses—24 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Practice Nursing (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (3 credit hours)

Specialty Courses: Family Nurse Practitioner—22 Credit Hours

- NGR 6334 Women's Health for APNs (2 credit hours)

- NGR 6201 Adult I Primary Care (3 credit hours)
- NGR 6240L Adult I Primary Care Clinical (3 credit hours; 180 clinical hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)
- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours; 120 clinical hours)
- NGR 6305 Pediatric Primary Care (3 credit hours)
- NGR 6305L Pediatric Primary Care Clinical (2 credit hours; 120 clinical hours)
- NGR 6342L Women's Health for Advanced Practice Nurses Clinical (1 credit hour; 60 clinical hours)
- NGR 6248L Advanced Practice Practicum (3 credit hours; 180 clinical hours)

Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade of below B in any course will be reviewed by the MSN/DNP Admissions, Profession and Graduation Committee for continuation in the program. Grades of below B are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

Graduation Requirements

- All course work completed with a minimum grade of "B"
- Clinical performance evaluated at a satisfactory level

College of Nursing Master's Program Handbook

All students completing the master's along the way are required to read the College of Nursing Master's Program Handbook regarding policies for each program and for academic progression. Information about each program, particularly clinical placements and forms for appeals to the Master's APG Committee are located in the Nursing MSN Handbook.

Equipment Fee

Full-time students in all Master of Science in Nursing Programs pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 each semester.

INDEPENDENT LEARNING

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the students MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution by program start date.*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida by program start date. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role
    - Describe the path you would take to ensure success in your graduate nursing education
    - Identify one significant contemporary issue or problem in US health care and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.

*For RNs with a Bachelor's degree in a discipline other than nursing, please contact the College of Nursing Graduate Office at gradnurse@ucf.edu for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office (407-823-2744) to speak with an adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice. Students are admitted to the program in the fall for the program of study; however, spring admissions are possible for a revised plan of study.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Family Nurse Practitioner	Fall Priority	Fall	Spring	Summer

Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Josie Weiss
Associate Professor
Program Director
josie.weiss@ucf.edu
407-823-2198
OTC4 454

Nursing MSN

Leadership and Management

TRACK DESCRIPTION

The Master of Science in Nursing (MSN) programs build upon the student's baccalaureate nursing education and professional experience. The Master of Science in Nursing program is accredited by the Commission on Collegiate Nursing Education (CCNE).

Program Objectives

The program prepare students to:

- Analyze social, economic, ethical, cultural, legal, and political issues influencing nursing practice and health care in a global context.
- Collaborate with leaders in nursing and other disciplines to improve the quality of professional nursing practice and the health care system.
- Develop and implement leadership, management, and teaching strategies for the improvement of health and health care.
- Develop practice models of evidence-based nursing practice incorporating nursing research.
- Influence health and public policy to improve health of communities.
- Participate in lifelong learning activities.
- Participate in research and disseminate research findings through presentation and publication.
- Synthesize advanced knowledge from the sciences, humanities, and nursing theories to support advanced nursing practice.
- Plan, evaluate and implement the delivery of health care using critical thinking skills.
- Practice in an advanced nursing role.

In addition to the MSN for students holding a baccalaureate nursing degree, the College of Nursing also offers admission to its master degree programs in nursing to Registered Nurses who have bachelor degrees in fields other than nursing. These students will need to take 8 credits of undergraduate upper division course work that is prerequisite for graduate study in nursing. Please contact gradnurse@ucf.edu for more information on this option.

The goal of the Master of Science in Nursing program is to prepare advanced practice nurses, nurse educators, and nursing leaders and managers to assume leadership positions in a variety of health care settings. Graduates of these programs are eligible to sit for national certification examinations in their respective specialties.

NOTE FOR INTERNATIONAL STUDENTS: Please contact the College of Nursing at gradnurse@ucf.edu or 407-823-2744 prior to applying to this online program.

CURRICULUM

The Leadership and Management track of the MSN is designed to equip nurses with the managerial and leadership skills necessary to become administrative leaders in the health care industry. The program requires 36 credit hours of coursework.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisite Courses—9 Credit Hours

Students with a bachelor's degree in a discipline other than nursing will be required to take the following courses prior to taking required program courses. Consistent with graduate nursing program policies, courses must be completed with a grade of 'B' or better.

- NUR 3805 Dimensions of Professional Practice (3 credit hours)
- NUR 4637 Public Health Nursing (3 credit hours)
- NUR 3165 Nursing Research (3 credit hours)

Required Courses—36 Credit Hours

- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Nursing Practice (3 credit hours)
- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 5871 Health Care Informatics (3 credit hours)
- NGR 6722 Financial Management and Resource Development (3 credit hours)
- NGR 6723 Nursing Leadership and Management I (3 credit hours)
- NGR 6723L Nursing Leadership Role Specialization Practicum I (3 credit hours; 135 clincal hours)
- NGR 6801 Research Methodology for Advanced Practice Nursing (3 credit hours)
- NGR 6813 Evidenced Based Practice (Research Scholarly Work) (3 credit hours)
- NGR 6874 Nursing Environment Management (3 credit hours)
- NGR 6772L Nursing and Leadership Management Internship (3 credit hours, 180 clinical hours)
- Graduate Elective (3 credit hours)

College of Nursing Master's Program Handbook

All master's students are required to read the College of Nursing Master's Program Handbook regarding policies for each program and for academic progression. Information about each program particularly clinical placements and forms for appeals to the Master's APG Committee are located in the Nursing MSN Handbook.

Equipment Fee

Full-time students in all Master of Science in Nursing programs pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 each semester.

INDEPENDENT LEARNING

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the students MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Students are admitted to the programs in fall and spring semesters. To study full-time, applicants to the leadership/management track should apply for fall admission. Part-time plans of study are available for both fall and spring admission cycles. Applicants with a non-nursing bachelor's degree are required to take upper-division nursing courses that are prerequisites for graduate study in nursing.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution by program start date.*
- Undergraduate Statistics course.
- Florida license required for all students who will be taking clinical and practice courses in Florida health care agencies and institutions by the program start date. For those students at a distance, a license is required in the state or country in which they practice by the program start date.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role.
    - Describe the path you would take to ensure success in your graduate nursing education.
    - Identify one significant contemporary issue or problem in US health care and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

*For RNs with a Bachelor's degree in a discipline other than nursing, please contact the College of Nursing Graduate Office at gradnurse@ucf.edu for additional options.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background check, drug testing and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Leadership and Management	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15	Sep 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Diane Andrews PhD
Assistant Professor
Program Director
andrews@ucf.edu
407-823-2744
Suite 300

Nursing MSN

Adult-Gerontology Primary Care Nurse Practitioner

TRACK DESCRIPTION

The Master of Science in Nursing (MSN) program in the Adult/Gerontology Primary Care Nurse Practitioner Track prepares nurses for advanced primary care practice in the current health care environment based on a strong scientific foundation for practice; flexibility and emphasis on evidence-based practice, and leadership.

The MSN Adult/Gerontology Primary Care Nurse Practitioner Track allows students to sit for certification examinations when they have completed the list of courses required. Certification authorizes them to function in the advanced role. Enrolling in the DNP program is an option after completion of the MSN.

Program Objectives

The programs prepare students to:

- Analyze social, economic, ethical, cultural, legal, and political issues influencing nursing practice and health care in a global context.
- Collaborate with leaders in nursing and other disciplines to improve the quality of professional nursing practice and the health care system.
- Develop and implement leadership, management, and teaching strategies for the improvement of health and health care.
- Develop practice models of evidence-based nursing practice incorporating nursing research.
- Influence health and public policy to improve health of communities.

- Participate in lifelong learning activities.
- Participate in research and disseminate research findings through presentation and publication.
- Synthesize advanced knowledge from the sciences, humanities, and nursing theories to support advanced nursing practice.
- Plan, evaluate and implement the delivery of health care using critical thinking skills.
- Practice in an advanced nursing role.

The College of Nursing also offers admission to its master degree programs in nursing to Registered Nurses who have bachelor degrees in fields other than nursing. These students will need to take 8 credits of undergraduate upper division course work as prerequisite for graduate study in nursing. Please contact gradnurse@ucf.edu for more information.

The College also offers an RN to MSN plan of study that provides an accelerated program for RNs who do not hold a baccalaureate degree but have met general educational requirements. Students admitted under this plan of study will complete requirements for both the BSN and MSN programs. See RN to MSN program below for more information. A separate application to the graduate program will be required upon completion of the BSN degree. Admission to the MSN program is competitive and not guaranteed.

CURRICULUM

The MSN Adult/Gerontology Primary Care Nurse Practitioner Track requires a minimum of 42 credit hours beyond the baccalaureate degree with 660 clinical practice hours. The part-time plan of study for the MSN can be completed in 8 semesters and the full-time plan of study in 5 semesters.

Total Credit Hours Required:

42 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisite Courses—9 Credit Hours

Students with a bachelor's degree in a discipline other than nursing will be required to take the following courses prior to taking required program courses. Consistent with graduate nursing program policies, courses must be completed with a grade of 'B' or better.

- NUR 3805 Dimensions of Professional Practice (3 credit hours)
- NUR 4637L Public Health Nursing (3 credit hours)
- NUR 3165 Nursing Research (3 credit hours)

Required Courses—42 Credit Hours

Core Courses—24 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Practice Nursing (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (3 credit hours)

Specialty Courses: Adult/Gerontology Nurse Practitioner—18 Credit Hours

- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6201 Adult I Primary Care (3 credit hours)
- NGR 6240L Adult I Primary Care Clinical (3 credit hours; 180 clinical hours)
- NGR 6202L Adult II Clinical for APNs (2 credit hours; 120 clinical hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)
- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours; 120 clinical hours)
- NGR 6248L Advanced Practice Practicum (3 credit hours; 180 clinical hours)

Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade of below B in any course will be reviewed by the MSN/DNP Admissions, Progression and Graduation Committee for continuation in the program. Grades of below B are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

Graduation Requirements

- All course work completed with a minimum grade of "B"
- Clinical performance evaluated at a satisfactory level

College of Nursing Master's Program Handbook

All master's students are required to read the College of Nursing Master's Program Handbook regarding policies for each program and for academic progression. Information about each program, particularly clinical placements and forms for appeals to the Master's APG Committee, are located in the Nursing MSN Handbook.

Equipment Fee

Full-time students in all Master of Science in Nursing Programs pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 each semester.

INDEPENDENT LEARNING

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the student's MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution by program start date.*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida by program start date. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role
    - Describe the path you would take to ensure success in your graduate nursing education
    - Identify one significant contemporary issue or problem in US health care and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required..

*For RNs with a Bachelor's degree in a discipline other than nursing, please contact the College of Nursing at gradnurse@ucf.edu or 407-823-2744 for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office (407-823-2744) to speak with an adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer

Application Deadlines

Adult-Gerontology Primary Care Nurse Practitioner	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Christopher Blackwell PhD
Associate Professor
Program Director
christopher.blackwell@ucf.edu
407-823-2744
UTWR 453

Nursing MSN

Nurse Educator

TRACK DESCRIPTION

The Master of Science in Nursing (MSN) programs build upon the student's baccalaureate nursing education and professional experience. The Master of Science in Nursing program is accredited by the Commission on Collegiate Nursing Education (CCNE). The Nurse Educator track is delivered online with some required campus activities. It prepares nurse educators for teaching positions in colleges and universities, as well as practice settings.

Program Objectives

The programs prepare students to:

- Analyze social, economic, ethical, cultural, legal, and political issues influencing nursing practice and health care in a global context.
- Collaborate with leaders in nursing and other disciplines to improve the quality of professional nursing practice and the health care system.
- Develop and implement leadership, management, and teaching strategies for the improvement of health and health care.
- Develop practice models of evidence-based nursing practice incorporating nursing research.
- Influence health and public policy to improve health of communities.
- Participate in lifelong learning activities.
- Participate in research and disseminate research findings through presentation and publication.
- Synthesize advanced knowledge from the sciences, humanities, and nursing theories to support advanced nursing practice.
- Plan, evaluate and implement the delivery of health care using critical thinking skills.
- Practice in an advanced nursing role.

In addition to the MSN for students holding a baccalaureate nursing degree, the College of Nursing also offers admission to its master degree programs in nursing to Registered Nurses who have bachelor degrees in fields other than nursing. These students will need to take 8 credits of undergraduate upper division course work that is prerequisite for graduate study in nursing. Please contact gradnurse@ucf.edu for more information on this option.

The goal of the Master of Science in Nursing program is to prepare advanced practice nurses, nurse educators, and nursing leaders and managers to assume leadership positions in a variety of health care settings. Graduates of these programs are eligible to sit for national certification examinations in their respective specialties.

CURRICULUM

The Nurse Educator Track in the Nursing MSN program requires 21 credit hours of nursing courses and 17 credit hours of education courses for a total of 38 credit hours of graduate course work.

Total Credit Hours Required:

38 Credit Hours Minimum beyond the Bachelor's Degree

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 Evidence-Based Nursing Practice (completed in the last or next to last semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the student's MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

Prerequisite Courses—9 Credit Hours

Students with a bachelor's degree in a discipline other than nursing will be required to take the following courses prior to taking required program courses. Consistent with graduate nursing program policies, courses must be completed with a grade of "B" or better.

- NUR 3805 Dimensions of Professional Practice (3 credit hours)
- NUR 4637 Public Health Nursing (3 credit hours)
- NUR 3165 Nursing Research (3 credit hours)

Required Nursing Courses—18 Credit Hours

- NGR 5638 Health Promotion (3 credit hours)
- NGR 5141 Pathophysiological Bases for ANP (3 credit hours)
- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behaviors in ANP (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (Scholarly Project) (3 credit hours)

Required Education Courses—17 Credit Hours

- NGR 6713 Curriculum Development in Nursing Education (3 credit hours)
- NGR 6715 Application of Instructional Technology for Nursing Education (3 credit hours)
- NGR 6791 Teaching Strategies for Nurse Educators (3 credit hours)
- NGR 6718 Evaluation in Nursing Education (3 credit hours)
- NGR 6942C Internship/Residency in Nursing Education (1,3 credit hours, 180 clinical hours)
- NGR 6945L Clinical Specialty Practicum (Family, Adult or Community) for Nurse Education (1 credit hour, 60 clinical hours)
- NGR 5190 Core Clinical Concepts for Nurse Educators (3 credit hours)

College of Nursing Master's Program Handbook

All master's students are required to read the College of Nursing Master's Program Handbook regarding policies for each program and for academic progression. Information about each program, particularly clinical placements and forms for appeals to the Master's APG Committee, are located in the Nursing MSN Handbook.

Equipment Fee

Full-time students in all Master of Science in Nursing programs pay a $90 equipment fee each semester that they are enrolled. part-time students pay $45 each semester.

INDEPENDENT LEARNING

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the last or next to last semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the students MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

The following application information is provided for applicants who have completed a bachelor's degree. Applicants with a non-nursing bachelor's degree are required to take upper-division nursing courses that are prerequisites for graduate study in nursing.

Students are admitted to the programs in fall and spring semesters. To study full-time, applicants to the nurse educator track should apply for fall admission. However, additional electives will be needed in some semesters. Part-time plans of study are available for both fall and spring admission cycles.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution by program start date.*
- Undergraduate Statistics course.
- Florida license required for all students who will be taking clinical and practice courses in Florida health care agencies and institutions by the program start date. For those students at a distance, a license is required in the state or country in which they practice by the program start date.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role
    - Describe the path you would take to ensure success in your graduate nursing education
    - Identify one significant contemporary issue or problem in US health care and explore how members of the nursing profession can help address that issue or solve that problem.

- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

*For RNs with a Bachelor's degree in a discipline other than nursing, please contact the College of Nursing Graduate Office at gradnurse@ucf.edu for additional options.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing, certified background check, drug testing and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Nurse Educator	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15	Sep 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Michele Upvall EdD
Professor
Program Director
michele.upvall@ucf.edu
407.823.4185
UTWR 300

Nursing MSN

Adult-Gerontology Acute Care Nurse Practitioner

TRACK DESCRIPTION

The Adult-Gerontology Acute Care Nurse Practitioner (AGACNP) Track in the Master of Science in Nursing (MSN) program prepares the advanced practice nurse to care for patients with medically complex stable and unstable acute, critical and chronic illnesses across care settings ranging from hospitals to subacute, ambulatory care, clinic and home care environments. The program provides a spectrum of care from disease prevention to acute and critical care management.

The track provides a spectrum of care from disease prevention to acute and critical care management. The curriculum prepares students for both the AGACNP board certification examination administered through the American Nurses Credentialing Center and the Acute Care Nurse Practitioner--Adult-Gerontology certification examination administered through the American Association of Critical Care Nurses.

CURRICULUM

The MSN Adult-Gerontology Acute Care Nurse Practitioner Track requires a minimum of 46 credit hours beyond the baccalaureate degree with 660 clinical practice hours. The program prepares nurses at the entry-level for advanced practice for the current healthcare system based on a strong scientific foundation for practice; offers flexibility and emphasis on evidence-based practice, leadership and organizational analysis; and provides analytic, critical thinking and diagnostic reasoning skills to examine practice innovations.

Total Credit Hours Required:

46 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisite Courses—9 Credit Hours

Students with a bachelor's degree in a discipline other than nursing will be required to take the following courses prior to taking required program courses. Consistent with graduate nursing program policies, courses must be completed with a grade of 'B' or better.

- NUR 3805 Dimensions of Professional Practice (3 credit hours)
- NUR 4637L Public Health Nursing (3 credit hours)
- NUR 3165 Nursing Research (3 credit hours)

Required Courses—42 Credit Hours

Core Courses—24 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Practice Nursing (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (3 credit hours)

Specialty Courses: Adult/Gerontology Acute Care Nurse Practitioner—22 Credit Hours

- NGR 6210 Adult-Gerontology Acute Care Nurse Practitioner I (3 credit hours)
- NGR 6230L Diagnostics and Skills for the Critically Ill (1 credit, 60 clinical hours)
- NGR 6211 Adult-Gerontology Acute Care Nurse Practitioner II (3 credit hours)
- NGR 6211L Adult-Gerontology Acute Care Nurse Practitioner II Clinical (3 credit hours, 180 clinical hours)
- NGR 6175 Critical Care Pharmacology (3 credit hours)
- NGR 6212 Adult-Gerontology Acute Care Nurse Practitioner III (3 credit hours)
- NGR 6212L Adult-Gerontology Acute Care Nurse Practitioner III Clinical (3 credit hours, 180 clinical hours)
- NGR 6215L Adult-Gerontology Acute Care Nurse Practitioner Practicum (3 credit hours, 180 clinical hours)

Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade of below "B" in any course will be reviewed by the MSN/DNP Admissions, Progression and Graduation Committee for continuation in the program. Grades of below "B" are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

Graduation Requirements

- All course work completed with a minimum grade of "B"
- Clinical performance evaluated at a satisfactory level

College of Nursing Master's Program Handbook

All master's students are required to read the College of Nursing Master's Program Handbook regarding policies for each program and for academic progression. Information about each program, particularly clinical placements and forms for appeals to the Master's APG Committee, are located in the Nursing MSN Handbook.

Equipment Fee

Full-time students in all Master of Science in Nursing Programs pay a $90 equipment fee each semester that they are enrolled. Part-time students pay $45 each semester.

INDEPENDENT LEARNING

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the student's MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution by program start date.*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida by program start date. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role
    - Describe the path you would take to ensure success in your graduate nursing education
    - Identify one significant contemporary issue of problem in US healthcare and explore how members of the nursing profession can help address that issues or solve that problem
- Curriculum Vitae: CV should reflect prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates, this can include accomplishments as a student
- An interview with faculty may also be required.

*For Students with an RN license and a Bachelor's degree in a discipline other than nursing, please contact the College of Nursing Graduate Office at gradnurse@ucf.edu or 407-823-2744 for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a MSN adviser to discuss your goals for masters study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for master-level preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluations of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF programs with the applicant's career goals. The College of Nursing accepts most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer

Application Deadlines

Adult-Gerontology Acute Care Nurse Practitioner	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Jan 15		

CONTACT INFO

Christopher Blackwell PhD
Associate Professor
Program Director
christopher.blackwell@ucf.edu
407-823-2744
UTWR 453

Nursing MSN

Nursing and Health Care Simulation

TRACK DESCRIPTION

The Master of Science in Nursing (MSN) program builds upon the student's baccalaureate nursing education and professional experience.

The MSN program is accredited by the Commission on Collegiate Nursing Education (CCNE). The Nursing and Health Care Simulation Track is delivered online with some required campus activities. It prepares simulation-based educators for positions in colleges and universities, as well as in practice settings.

CURRICULUM

The MSN Nursing and Health Care Simulation Track requires a minimum of 30 credit hours beyond the baccalaureate degree, including 24 credit hours of required courses and 6 credit hours of electives.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisite Courses—9 Credit Hours

Students with a bachelor's degree in a discipline other than nursing will be required to take the following courses prior to taking required program courses. Consistent with graduate nursing program policies, courses must be completed with a grade of 'B' or better.

- NUR 3805 Dimensions of Professional Practice (3 credit hours)
- NUR 4637 Public Health Nursing (3 credit hours)
- NUR 3165 Nursing Research (3 credit hours)

Required Courses—24 Credit Hours

Core Courses—15 Credit Hours

- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Practice Nursing (3 credit hours)
- NGR 6801 Research Methods (3 credit hours)
- NGR 6813 Evidence-Based Nursing Practice (Scholarly Project) (3 credit hours)

Required Simulation Courses—9 Credit Hours

- NGR 6717 Introduction to Healthcare Simulation (3 credit hours)
- NGR 6794 Organizational Leadership and Operations in Healthcare Simulation (3 credit hours)
- NGR 6978 Healthcare Simulation Capstone Project (3 credit hours)

Elective Courses—6 Credit Hours

Select at least two courses. Courses may be taken in other colleges with permission of adviser and faculty presenting the course.

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour, on-campus lab time required)
- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 6722 Financial Management and Resource Development (3 credit hours)
- NGR 6713 Curriculum Development in Nursing Education (3 credit hours)
- NGR 6715 Application of Instructional Technology for Nursing Education (3 credit hours)
- NGR 6718 Evaluation in Nursing Education (3 credit hours)
- NGR 6791 Teaching Strategies for Nurse Educators (3 credit hours)
- IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)
- IDS 6148 Human Systems Integration for Modeling and Simulation (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)
- NGR 6771L Healthcare Simulation Practicum (1-3 credit hours)

College of Nursing Master's Program Handbook

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Equipment Fee

Full-time students in all Master of Science in Nursing programs pay a $90 equipment fee each semester that they are enrolled. part-time students pay $45 each semester.

INDEPENDENT LEARNING

An independent scholarly work is a requirement for the Master of Science in Nursing degree. The scholarly work consists of an evidence-based nursing project. The scholarly project that is required in NGR 6813 (completed in the final semester of study) is an evidence-based scholarly clinical paper. The evidence-based project should reflect the latest evidence for the student's MSN track. This is a formal paper that must adhere to published guidelines in the syllabus and must be presented in a public forum.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution by program start date.*
- Undergraduate Statistics course.
- Florida license required for all students who will be taking clinical and practice courses in Florida health care agencies and institutions by the program start date. For those students at a distance, a license is required in the state or country in which they practice by the program start.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role
    - Describe the path you would take to ensure success in your graduate nursing education
    - Identify one significant contemporary issue of problem in US healthcare and explore how members of the nursing profession can help address that issues or solve that problem

- Curriculum Vitae: CV should reflect prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates, this can include accomplishments as a student
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- An interview with faculty may also be required.

*For Students with an RN license and a Bachelor's degree in a discipline other than nursing, please contact the College of Nursing Graduate Office at gradnurse@ucf.edu or 407-823-2744 for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a MSN adviser to discuss your goals for masters study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for master-level preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluations of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF programs with the applicant's career goals. The College of Nursing accepts most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

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Application Deadlines

Nursing and Health Care Simulation	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15	Sep 15	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Jan 15	Sep 1	

CONTACT INFO

Mndi Anderson PhD
Associate Professor
Program Director
mindi.anderson@ucf.edu
407-823-1956
UTWR 455

Optics and Photonics MS

- International
- Optics
- Photonics

PROGRAM DESCRIPTION

The Master of Science in Optics and Photonics program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program is interdisciplinary and combines optical science and engineering.

The College of Optics and Photonics offers an interdisciplinary graduate program in optical science and engineering leading to a Master of Science in Optics and Photonics. The college has grown rapidly and now has 55 faculty members and faculty with joint appointments, 41 research scientists and 148 graduate students with research activities covering all aspects of optics, photonics, and lasers. Research expenditures are over $10 million annually, with over 20 percent of the funding coming from industrial partners, illustrating the effectiveness of the commitment to partnerships that is a foundational value of the COP.

Research activities cover all aspects of optics, photonics, and lasers, and the Center for Research and Education in Optics and Lasers (CREOL), the Florida Photonics Center of Excellence (FPCE), and the Townes Laser Institute (TLI) are integral parts of the College. Current research areas include: linear and nonlinear guided-wave optics and devices, high speed photonic telecommunications, fiber optic fabrication, fiber optic communications, solid state laser development, nonlinear optics, laser-induced damage, quantum-well optoelectronics, quantum optics, photonic information processing, infrared systems, optical diagnostics, optical system design, image analysis, virtual reality, medical imaging, diffractive optics, optical crystal growth and characterization, high intensity lasers, X-ray optics, EUV sources, optical glasses, laser materials processing, free-electron lasers, and light matter interaction.

The MS program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program's mission is to:

- Provide the highest-quality education in optical science and engineering

- Conduct scholarly, fundamental, and applied research
- Aid in the development of Florida's and the nation's technology-based industries

CURRICULUM

The Optics and Photonics MS program (No Track) requires a minimum of 30 credit hours beyond the bachelor's degree. The program offers a thesis and nonthesis option. Students are allowed considerable freedom in planning their study programs, although some foundation Optics courses are strongly recommended as core courses and two research methods/laboratory courses are required.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Additional notes on the curriculum:

- A minimum of 24 credit hours of formal graduate courses is required in the thesis option of which at least 12 credit hours must be formal Optics (prefix OSE) courses. A minimum of 27 credit hours of formal graduate courses is required in the nonthesis option of which at least 18 credit hours must be formal Optics (prefix OSE) courses. The remaining credit hours can be thesis or other elective and research courses as permitted in the option.
- At least 6 credit hours of approved optics or related science and engineering research methods/laboratory courses are required in both options. At least one must be in Optics or approved as an Optics substitute.
- Up to nine credit hours of appropriate graduate courses from accredited universities may be transferred with approval from the College of Optics and Photonics. Only courses with grades of "B" or better can be transferred.

Required Courses—15 Credit Hours

Core—9 Credit Hours

The following foundation courses are required.

- OSE 5115 Interference and Diffraction (3 credit hours)
- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)

Research Methods/Laboratory—6 Credit Hours

At least 6 credit hours of approved Optics and related science/engineering research methods/laboratory courses are required from the list below. At least one must be in Optics (OSE). One required laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization. These research methods/laboratory courses count toward the formal graduate course work requirement.

- OSE 6234C Applied Optics Laboratory (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- Other graduate-related science and engineering methodology labs may be taken with approval by the College of Optics and Photonics.

Elective Courses—9 Credit Hours

All students are required to take a minimum of 9 credit hours of electives.

Other courses with significant optics content may be accepted towards the Optics (OSE) course work requirement, upon approval by the Associate Dean.

A listing and description of courses offered by the College of Optics and Photonics is found in the "Courses" section of the Graduate Catalog Menu at the top of the page.

Thesis Option—6 Credit Hours

The thesis option requires at least 6 credit hours of thesis research.

- OSE 6971 Thesis (6 credit hours)

Independent study and directed research credit hours are not allowed toward the degree requirements. The student must prepare an approved program of study and form a thesis committee upon completion of nine credit hours. The MS thesis committee consists of three members, with at least two regular graduate faculty members from the College of Optics and Photonics. Students are required to write a thesis and pass an oral exam based primarily on the topics of the thesis and course work.

Nonthesis Option—6 Credit Hours

The nonthesis option requires an additional 6 credit hours of electives.

- Electives (6 credit hours)

Up to 3 credit hours of directed research (OSE 6918) or research report (OSE 6909) may be included as electives with prior approval of the College of Optics and Photonics although they are not counted toward the required 27 credit hours of formal course work. Students must prepare an approved plan of study upon completion of nine credit hours. Students are required to pass a final oral comprehensive examination based primarily on the subject matter of the courses taken. The purpose of the exam is for the student to demonstrate his or her basic knowledge of the fundamentals of optics and photonics.

The research report is a written report on a subject based on research completed under the guidance of a faculty advisor who is a member of the graduate faculty in the College of Optics and Photonics. The subject matter will be determined by advisor and should be on some aspect of experimental, theoretical, or literature research in the area of optics and photonics. Normally the research and report should be completed within one semester. The written report should contain between 5,000 and 10,000 words and should roughly follow the format of a scientific journal paper. The report will be evaluated by a committee consisting of the advisor and two other faculty members. The student will be expected to present a brief oral presentation of the work to the committee, not less than 5 business days after submitting the written report to the committee and prior to the last day of classes in the semester. The report will be graded on a satisfactory/unsatisfactory basis by the advisor, based on the input from the committee.

The nonthesis master's requires a minimum of two methods/laboratory courses as described above. These laboratory courses involve a substantial amount of independent learning on the part of the student. For example, laboratory reports must include sections on the theoretical and historical background behind the phenomena explored in laboratory experiments, and students are expected to obtain this background information on their own by researching the scientific literature. One required Optics laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization. These methodology/laboratory courses count toward the formal course work requirement.

INDEPENDENT LEARNING

All students must take a minimum of two graduate methodology/laboratory courses in Optics or a closely related field that include experiments, research and laboratory reports. Nonthesis students also engage in directed research or research report. Thesis students enroll in 6 hours of thesis credits during the completion of their research study.

APPLICATION REQUIREMENTS

Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre-application process. The pre-application is located at http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx.

In addition to the general application requirements, applicants must provide an offiical, competitive GRE score taken within the last five years, have a bachelor's degree in Optics, Electrical Engineering, Physics, or closely related fields, résumé, goal statements (Personal Statement), and three letters of recommendation.

Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre-application process. The pre-application is located at http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Optics, Electrical Engineering, Physics, or closely related fields.
- Official, competitive GRE score taken within the last five years.
- Goal Statement: Please choose the Personal Statement option. Your Personal statement should describe your career goals. Please include why you want to come to CREOL and how the MS will help you achieve your ultimate career goals.
- Three letters of recommendation.
- Résumé.

Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case-by-case basis.

Application Deadlines

Optics and Photonics MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

David Hagan PhD
Associate Dean
College Coordinator
hagan@creol.ucf.edu
407-823-6817
CROL 231

Optics and Photonics MS

International

TRACK DESCRIPTION

The International track in the Optics and Photonics MS program is intended for those students involved in an international exchange program with particular programs in other countries as approved by the university and the College of Optics and Photonics. The requirements for this track are the same as the general MS program.

CURRICULUM

The International Track in the Optics and Photonics MS program requires a minimum of 30 credit hours beyond the bachelor's degree. The program offers a thesis and nonthesis option. Students are allowed considerable freedom in planning their study programs, although some foundation Optics courses are strongly recommended as core courses and two research methods/laboratory courses are required.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Additional notes on the curriculum:

- A minimum of 24 credit hours of formal graduate courses is required in the thesis option of which at least 12 credit hours must be formal Optics (prefix OSE) courses. A minimum of 27 credit hours of formal graduate courses is required in the nonthesis option of which at least 18 credit hours must be formal Optics (prefix OSE) courses. The remaining credit hours can be thesis or other elective and research courses as permitted in the option.
- In addition the following requirements must be satisfied:
    - For this track, 18 credit hours must be taken at UCF and 12 credit hours of course work must be taken at the partner university. These hours must be taken from an approved list maintained by the college and made available on the college web site. Courses other than those on the list must be approved by the College of Optics and Photonics Curriculum Committee. If the thesis option is selected, the thesis hours must be taken at UCF.
    - At least 6 credit hours of approved optics or related science and engineering research methods/laboratory courses are required in both options. At least one must be in Optics or an approved Optics substitute.
- Language requirements. Students must demonstrate competency in the primary language of the partner university or else must take at least 6 hours of appropriate undergraduate language courses prior to traveling to the partner university.

Required Courses—15 Credit Hours

Core Courses—9 Credit Hours

The following foundation courses are strongly recommended for all students unless they can demonstrate knowledge sufficient to waive the course in which case they will take an additional elective.

- OSE 5115 Interference, Diffraction & Coherence (3 credit hours)
- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)

Research Methods/Laboratory—6 Credit Hours

At least 6 credit hours of approved Optics and related science/engineering research methods/laboratory courses are required from the list below. At least one must be in Optics (OSE). One required laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization. These research methods/laboratory courses count toward the formal graduate course work requirement.

-
- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- Other graduate-related science and engineering methodology labs may be taken with approval by the College of Optics and Photonics.

Elective Courses—9 Credit Hours

All students are required to take a minimum of 9 credit hours of electives.

Other courses with significant optics content may be accepted toward the Optics (OSE) course work requirement, upon approval by the Associate Dean.

A listing and description of courses offered by the College of Optics and Photonics is found in the "Courses" section of the Graduate Catalog Menu at the top of the page.

Thesis Option—6 Credit Hours

The thesis option requires at least 6 credit hours of thesis research.

- OSE 6971 Thesis (6 credit hours)

Independent study and directed research credit hours are not allowed toward the degree requirements. The student must prepare an approved program of study and form a thesis committee upon completion of nine credit hours. The MS thesis committee consists of three members, with at least two regular graduate faculty members from the College of Optics and Photonics. Students are required to write a thesis and pass an oral exam based primarily on the topics of the thesis and course work.

Nonthesis Option—6 Credit Hours

The nonthesis option requires an additional 6 credit hours of electives.

- Electives (6 credit hours)

Up to 3 credit hours of directed research (OSE 6918) or research report (OSE 6909) may be included with prior approval of the College of Optics and Photonics although they are not counted toward the formal course work requirement. Students must prepare an approved program of study upon completion of nine credit hours. Students are required to pass a final oral comprehensive examination based primarily on the subject matter of the courses taken. The purpose of the exam is for the student to demonstrate his or her basic knowledge of the fundamentals of optics and photonics.

The nonthesis master's requires a minimum of two methods/laboratory courses as described above. These laboratory courses involve a substantial amount of independent learning on the part of the student. For example, laboratory reports must include sections on the theoretical and historical background behind the phenomena explored in laboratory experiments, and students are expected to obtain this background information on their own by researching the scientific literature. One required Optics laboratory may be waived if the student can demonstrate an equivalent hands-on proficiency in that laboratory specialization. These methodology/laboratory courses count toward the formal course work requirement.

INDEPENDENT LEARNING

All students must take a minimum of two graduate methodology/laboratory courses in Optics or a closely related field that include experiments, research and laboratory reports. Nonthesis students also engage in directed research or research report. Thesis students enroll in 6 hours of thesis credits during the completion of their research study.

APPLICATION REQUIREMENTS

Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre-application process. The pre-application is located at http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Optics, Electrical Engineering, Physics, or closely related fields.
- Official, competitive GRE score taken within the last five years.
- Goal Statement: Please choose the Personal Statement option. Your Personal statement should describe your career goals. Please include why you want to come to CREOL and how the MS will help you achieve your ulitmate career goals.
- Three letters of recommendation.
- Résumé.

Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case-by-case basis.

Application Deadlines

International	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				
International Transfer Applicants				

CONTACT INFO

David Hagan PhD

Associate Dean
College Coordinator
hagan@creol.ucf.edu
407-823-6817
CROL 231

Optics and Photonics MS

Optics

TRACK DESCRIPTION

The Optics Track in the Master of Science in Optics and Photonics program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program is interdisciplinary and combines optical science and engineering.

CURRICULUM

The Optics Track in the Optics and Photonics MS program requires a minimum of 30 credit hours beyond the bachelor's degree. The program offers thesis and nonthesis options. Students are allowed some freedom in planning their study programs, although some foundation Optics courses are strongly recommended as core courses and one research methods/laboratory course is required.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Additional notes on the curriculum:

- A minimum of 24 credit hours of formal graduate courses is required in the thesis option, of which at least 12 credit hours must be formal Optics (prefix OSE) courses. A minimum of 27 credit hours of formal graduate courses is required in the nonthesis option, of which at least 18 credit hours must be formal Optics (prefix OSE) courses. The remaining credit hours can be thesis or other elective and research courses as permitted in the option.
- At least 3 credit hours of an approved optics methods/laboratory course is required in both options.
- An OSE 6909 Research Report of 3 credit hours is required in the nonthesis option.
- Up to 9 credit hours of appropriate graduate courses from accredited universities may be transferred with approval from the College of Optics and Photonics. Only courses with grades of "B" or better can be transferred.

Required Courses—21 Credit Hours

Core—18 Credit Hours

The following foundation courses are required.

- OSE 5115 Interference, Diffraction and Coherence (3 credit hours)
- OSE 5203 Geometrical Optics (3 credit hours)
- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 6211 Imaging and Optical Systems (3 credit hours)
- OSE 6265 Optical Systems Design (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)

Research Methods/Laboratory—3 Credit Hours

At least 3 credit hours of approved Optics and related science/engineering research methods/laboratory courses is required from the list below. These research methods/laboratory courses count toward the formal graduate course work requirement.

- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- Other graduate-related science and engineering methodology labs may be taken with approval by the College of Optics and Photonics.

Elective Courses—3 Credit Hours

All students are required to take a minimum of 3 credit hours of electives.

Other courses with significant optics content may be accepted toward the Optics (OSE) course work requirement, upon approval by the Associate Dean.

A listing and description of courses offered by the College of Optics and Photonics is found in the "Courses" section of the Graduate Catalog Menu at the top of the page.

Thesis Option—6 Credit Hours

The thesis option requires at least 6 credit hours of thesis research.

- OSE 6971 Thesis (6 credit hours)

Independent study and directed research credit hours are not allowed toward the degree requirements. The student must prepare an approved plan of study and form a thesis committee upon completion of 9 credit hours. The MS thesis committee consists of three members, with at least two regular graduate faculty members from the College of Optics and Photonics. Students are required to write a thesis and pass an oral exam based primarily on the topics of the thesis and course work.

Nonthesis Option—6 Credit Hours

The nonthesis option requires an additional 6 credit hours of courses or electives.

- OSE 6909 Research Report (3 credit hours)
- Elective course (3 credit hours)

Up to 3 credit hours of Research Report (OSE 6909) will be included.

For students in a nonthesis option, a Research Report may be completed in the last term of study. The Optics or Photonics master's tracks require a research report in the nonthesis option, but this is optional in the general MS degree.

The research report is a written report on a subject based on research completed under the guidance of a faculty adviser who is a member of the graduate faculty in the College of Optics and Photonics. The subject matter will be determined by the adviser and should be on some aspect of experimental, theoretical, or literature research in the area of optics and photonics. Normally, the research and report should be completed within one semester. The written report should contain between 5,000 and 10,000 words and should roughly follow the format of a scientific journal paper. The report will be evaluated by a committee consisting of the adviser and two other faculty members. The student will be expected to present a brief oral presentation of the work to the committee, not less than 5 business days after submitting the written report to the committee and prior to the last day of classes in the semester. The report will be graded on a satisfactory/unsatisfactory basis by the adviser, based on the input from the committee.

Students must select an adviser from the College of Optics and Photonics faculty to serve on their Research Report. Students must prepare an approved plan of study upon completion of 9 credit hours. Students are required to pass a final oral comprehensive examination based primarily on the subject matter of the courses taken. The purpose of the exam is for the student to demonstrate his or her basic knowledge of the fundamentals of optics and photonics.

INDEPENDENT LEARNING

Students must demonstrate independent learning by either writing a thesis or a research report. Additionally, all students must take a minimum of one graduate methodology/laboratory course in Optics or a closely related field that includes experiments, research and laboratory reports.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre-application process. The pre-application is located at http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Optics, Electrical Engineering, Physics, or closely related fields.
- Official, competitive GRE score taken within the last five years.
- Goal Statement: Please choose the Personal Statement option. Your Personal statement should describe your career goals. Please include why you want to come to CREOL and how the MS will help you achieve your ulitmate career goals.
- Three letters of recommendation.
- Résumé.

Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case-by-case basis.

Application Deadlines

Optics	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

David Hagan PhD
Associate Dean
College Coordinator
hagan@creol.ucf.edu
407-823-6817
CROL 231

Optics and Photonics MS

Photonics

TRACK DESCRIPTION

The Photonics Track in the Optics and Photonics MS program is intended for students with a bachelor's degree in optics, electrical engineering, physics, or closely related fields. The program is interdisciplinary and combines optical science and engineering.

CURRICULUM

The Photonics Track in the Optics and Photonics MS program requires a minimum of 30 credit hours beyond the bachelor's degree. The program offers thesis and nonthesis options. Students are allowed some freedom in planning their study programs, although some foundation Optics courses are strongly recommended as core courses and one research methods/laboratory course is required.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Additional notes on the curriculum:

- A minimum of 24 credit hours of formal graduate courses is required in the thesis option, of which at least 12 credit hours must be formal Optics (prefix OSE) courses. A minimum of 27 credit hours of formal graduate courses is required in the nonthesis option, of which at least 18 credit hours must be formal Optics (prefix OSE) courses. The remaining credit hours can be thesis or other elective and research courses as permitted in the option.
- At least 3 credit hours of an approved optics methods/laboratory course is required in both options.
- An OSE 6909 Research Report of 3 credit hours is required in the nonthesis option.
- Up to 9 credit hours of appropriate graduate courses from accredited universities may be transferred with approval from the College of Optics and Photonics. Only courses with grades of "B" or better can be transferred.

Required Courses—21 Credit Hours

Core—18 Credit Hours

- OSE 5414 Fundamentals of Optoelectronic Devices (3 credit hours)
- OSE 5115 Interference and Diffraction (3 credit hours)
- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 6525 Laser Engineering (3 credit hours)
- OSE 6421 Integrated Photonics (3 credit hours)
- OSE 6474 Optical Communications Systems (3 credit hours)

Research Methods/Laboratory—3 Credit Hours

At least 3 credit hours of approved Optics and related science/engineering research methods/laboratory courses is required from the list below. These research methods/laboratory courses count toward the formal graduate course work requirement.

- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6615L Optoelectronic Device Fabrication Laboratory (3 credit hours)
- Other graduate-related science and engineering methodology labs may be taken with approval by the College of Optics and Photonics.

Elective Courses—6 Credit Hours

All students are required to take a minimum of 3 credit hours of electives.

Other courses with significant optics content may be accepted toward the Optics (OSE) coursework requirement, upon approval by the Associate Dean.

A listing and description of courses offered by the College of Optics and Photonics is found in the "Courses" section of the Graduate Catalog Menu at the top of the page.

Thesis Option—6 Credit Hours

The thesis option requires at least 6 credit hours of thesis resarch.

- OSE 6971 Thesis (6 credit hours)

Independent study and directed research credit hours are not allowed toward the degree requirements. The student must prepare an approved plan of study and form a thesis committee upon completion of 9 credit hours. The MS thesis committee consists of three members, with at least two regular graduate faculty members from the College of Optics and Photonics. Students are required to write a thesis and pass an oral exam based primarily on the topics of the thesis and course work.

Nonthesis Option—6 Credit Hours

The nonthesis option requires an additional 6 credit hours of courses or electives.

- OSE 6909 Research Report (3 credit hours)
- Elective course (3 credit hours)

Up to 3 credit hours of Research Report (OSE 6909) will be included.

For students in a non-thesis option, a Research Report may be completed in the last term of study. The Optics or Photonics Masters tracks require a research report in the non-thesis option, but this is optional in the general MS degree.

The research report is a written report on a subject based on research completed under the guidance of a faculty advisor who is a member of the graduate faculty in the College of Optics and Photonics. The subject matter will be determined by advisor and should be on some aspect of experimental, theoretical, or literature research in the area of optics and photonics. Normally the research and report should be completed within one semester. The written report should contain between 5,000 and 10,000 words and should roughly follow the format of a scientific journal paper. The report will be evaluated by a committee consisting of the advisor and two other faculty members. The student will be expected to present a brief oral presentation of the work to the committee, not less than 5 business days after submitting the written report to the committee and prior to the last day of classes in the semester. The report will be graded on a satisfactory/unsatisfactory basis by the advisor, based on the input from the committee.

Students must select an adviser from the College of Optics and Photonics Faculty to serve on their Research Report. Students must prepare an approved plan of study upon completion of 9 credit hours. Students are required to pass a final oral comprehensive examination based primarily on the subject matter of the courses taken. The purpose of the exam is for the student to demonstrate his or her basic knowledge of the fundamentals of optics and photonics.

INDEPENDENT LEARNING

Students must demonstrate independent learning by either writing a thesis or a research report. Additionally, all students must take a minimum of one graduate methodology/laboratory course in Photonics or a closely related field that includes experiments, research and laboratory reports.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Before completing general UCF graduate application requirements, all applicants for programs in the College of Optics and Photonics are recommended to complete the pre-application process. The pre-application is located at http://www.creol.ucf.edu/Academics/Prospective/PreApplication.aspx.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Optics, Electrical Engineering, Physics, or closely related fields.
- Official, competitive GRE score taken within the last five years.
- Goal Statement: Please choose the Personal Statement option. Your Personal statement should describe your career goals. Please include why you want to come to CREOL and how the MS will help you achieve your ulitmate career goals.
- Three letters of recommendation.
- Résumé.

Students with degrees in related fields may be required to take undergraduate articulation courses determined by the program director on a case-by-case basis.

Application Deadlines

Photonics	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

David Hagan PhD
Associate Dean
College Coordinator
hagan@creol.ucf.edu
407-823-6817
CROL 231

Physics MS

PROGRAM DESCRIPTION

The Master of Science in Physics program provides many research opportunities in condensed matter physics, nanostructure devices, surface science, optical physics, complex systems, biophysics, atomic and molecular physics, physics education and planetary/space science.

The University of Central Florida offers a Master of Science in Physics. Research opportunities are available in condensed matter physics, nanostructure devices, surface science, optical physics, complex systems, biophysics, atomic and molecular physics, physics education and planetary/space science.

CURRICULUM

The Physics MS program requires a minimum of 30 credit hours beyond the bachelor's degree, and offers students a thesis and nonthesis option. All students take 12 credit hours of core courses, and then the remaining 18 credit hours consist of both electives and thesis or directed research according to the option chosen.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

The Master of Science in Physics program is flexibly designed in order to prepare students for the widest possible range of industrial careers or for further study at the doctoral level. Courses must be selected so that at least one-half of the required courses are taken at the 6000 level.

Students pursuing a nonthesis master's degree must take at least one directed research course as part of their elective work. In this course, students will work on a research project under the supervision of a faculty member and present a final report.

Required Courses—12 Credit Hours

- PHY 5606 Quantum Mechanics I (3 credit hours)
- PHY 5346 Electrodynamics I (3 credit hours)
- PHY 5524 Statistical Physics (3 credit hours)
- PHY 6246 Classical Mechanics (3 credit hours)

Elective Courses—18 Credit Hours

Both thesis and nonthesis students take electives in consultation with their advisers. Out of the 18 elective credit hours at least 12 credit hours of formal course work are required and not more than 6 credit hours of 5000-level elective courses are counted toward the degree. At least 6 credit hours of thesis or 3 credit hours of directed research for the nonthesis option are required. Otherwise, elective selection is intended to be very flexible in order to meet student needs and interests. Electives may be chosen following one of the suggested specializations below, or a different program of study may be followed with academic adviser approval.

Materials Physics Specialization

- PHY 6624 Quantum Mechanics II (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHZ 6426 Condensed Matter Physics I (3 credit hours)
- PHZ 6428 Condensed Matter Physics II (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- PHZ 5432 Introduction to Soft Condensed Matter Physics (3 credit hours)
- PHZ 5437 Nanoscale Surface Physics (3 credit hours)
- PHY 5715 Physical Basis of Life (3 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- PHZ 5425C Electron Solid Interactions (3 credit hours)
- PHY 5140C Ion-Solid Interactions (3 credit hours)
- PHY 5255 Physics of Fluids and Biofluids (3 credit hours)
- PHZ 6420 First Principles Computational Methods in Condensed Matter Physics and Materials Science (3 credit hours)
- PHY 5933 Selected Topics in Biophysics of Macromolecules (3 credit hours)
- PHY 6938 Theory and Computation of Molecular Wave Functions (3 credit hours)
- PHY 6938 Selected Topics in Scattering Theory (3 credit hours)
- EEE 5356C Fabrications of Solid-State Devices (4 credit hours)
- Other graduate courses from Optics, Materials Science, Physics, Optical Science and Engineering, Electrical Engineering or Industrial Chemistry.

Optical Physics Specialization

- PHY 6624 Quantum Mechanics II (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHY 6938 Theory and Computation of Molecular Wave Functions (3 credit hours)
- OSE 6111 Optical Wave Propagation (3 credit hours)
- OSE 5115 Interference and Diffraction (3 credit hours)
- OSE 6526C Laser Engineering Laboratory (3 credit hours)
- OSE 6455C Photonics Laboratory (3 credit hours)
- OSE 6347 Quantum Optics (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)
- Other graduate courses from Optics, Materials Science, Physics, Optical Science and Engineering, Electrical Engineering or Industrial Chemistry.

Space Physics Specialization

- PHY 6624 Quantum Mechanics II (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)

- AST 5165 Planetary Atmospheres (3 credit hours)
- AST 5334 Extrasolar Planets and Brown Dwarfs (3 credit hours)
- EAS 5315 Rocket Propulsion (3 credit hours)
- EAS 6405 Advanced Flight Dynamics (3 credit hours)
- EAS 6507 Topics of Astrodynamics (3 credit hours)
- OSE 5041 Introduction to Wave Optics (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- EEL 6823 Image Processing II (3 credit hours)
- Other graduate courses from Optics, Materials Science, Physics, Optical Science and Engineering, Electrical Engineering or Industrial Chemistry.

Theory/Computational Physics Specialization

- PHY 6624 Quantum Mechanics II (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHZ 6420 First Principles Computational Methods in Condensed Matter Physics and Materials Science (3 credit hours)
- PHY 6938 Theory and Computation of Molecular Wave Functions (3 credit hours)
- PHY 6938 Selected Topics in Scattering Theory (3 credit hours)
- PHY 6667 Advanced Quantum Mechanics (3 credit hours)
- PHZ 6426 Condensed Matter Physics I (3 credit hours)
- PHZ 6428 Condensed Matter Physics II (3 credit hours)
- PHY 6667 Quantum Field Theory I (3 credit hours)
- PHY 7669 Quantum Field Theory II (3 credit hours)
- PHZ 5505 Plasma Physics (3 credit hours)
- OSE 6347 Quantum Optics (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)
- Other courses from Physics, Math, Optics, Materials Science, Engineering, Computer Science.

Thesis Option—6 Credit Hours

Students who choose the thesis option are required to conduct a program of original scientific research or some investigation involving a creative element and to submit a written thesis detailing these investigations. An oral defense and examination of the thesis is required.

- PHY 6971 Thesis (6 credit hours)

Nonthesis Option—3 Credit Hours

Nonthesis students will take 15 credit hours of electives from the list of elective specializations shown above. In addition, they must take 3 credit hours of directed research as well as a written comprehensive exit examination. In the directed research course, students work on a research project under the supervision of a faculty member and are required to present a final report.

- PHY 6918 Directed Research (3 credit hours)

INDEPENDENT LEARNING

Students pursuing a nonthesis master's degree must take at least one directed research course as part of their elective work. In this course, students will work on a research project under the supervision of a faculty member and present a final report.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must provide a résumé, goal statement, and three letters of recommendation; students entering the Physics graduate program with regular status are normally expected to have completed course work generally required for a bachelor's degree in physics, including mechanics, electricity and magnetism, thermal and statistical physics, and quantum mechanics.

These application requirements are effective for those applying to Spring 2018 and beyond. For Fall 2017 application requirements, please visit http://2016-2017.graduatecatalog.ucf.edu/programs/

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Résumé.
- Goal statement.
- Three letters of recommendation.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applicants interested in being considered for assistantship and fellowship opportunities should apply directly to the Physics PhD program.

Students entering the Physics graduate program with regular status are normally expected to have completed course work generally required for a bachelor's degree in physics, including mechanics, electricity and magnetism, thermal and statistical physics, and quantum mechanics.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Physics MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Esperanza Soto Arcino
Program Staff
soto@ucf.edu
407-823-5146
PSB 432

Physics MS

Planetary Sciences

TRACK DESCRIPTION

The Planetary Sciences track in the Physics MS program is designed to prepare students to be competitive in the global planetary sciences research community.

UCF has rapidly grown to become a center for research and teaching in the planetary sciences. Our goal is to create a vibrant planetary science research environment that can attract top students, researchers, and faculty and contribute significantly to the exploration of space. The Planetary Sciences track in the Physics MS program is designed to prepare students to be competitive in the global planetary sciences research community.

CURRICULUM

The Planetary Sciences track in the Physics MS program requires a minimum 33 hours of graduate course work as directed by the student's supervisory committee. This must include at least 15 credit hours of required courses, 6 hours of thesis preparation with the remainder being elective courses and directed research chosen in consultation with the supervisory committee. At least half of the total credits must be at the 6000 level. No more than 6 hours of independent study may be credited toward the master's degree. The master's degree in Planetary Sciences includes a thesis and its defense. There is no nonthesis master's degree in the Planetary Sciences track.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

The core is designed to give students a broad foundation in the planetary sciences and a rapid training in the data analysis techniques that will be necessary for a successful research and publications. Students choose 5 out of the 6 core courses listed below:

- PHY 5524 Statistical Physics (3 credit hours)
- PHY 6246 Classical Mechanics (3 credit hours)
- PHZ 5156 Computational Physics (3 credit hours) or AST 5765C Advanced Astronomical Data Analysis (3 credit hours)
- AST 5154 Advanced Planetary Geophysics (3 credit hours)
- AST 5263 Advanced Observational Astronomy (3 credit hours)
- AST 5165 Planetary Atmospheres (3 credit hours)

Elective Courses—12 Credit Hours

- AST 6938 Planetary Astronomy Seminar (3 credit hours)
- AST 6112 Origins of Solar Systems (3 credit hours)
- AST 5334 Extrasolar Planets and Brown Dwarfs (3 credit hours)
- PHY 5937 Astrobiology (3 credit hours)
- AST 5145 Advanced Asteroids, Comets, and Meteorites (3 credit hours)

Other Electives

- PHZ 5505 Plasma Physics (3 credit hours)
- PHY 5346 Electrodynamics I (3 credit hours)
- PHY 6347 Electrodynamics II (3 credit hours)
- PHY 5606 Quantum Mechanics I (3 credit hours)
- PHY 6624 Quantum Mechanics II (3 credit hours)
- OSE 5041 Introduction to Wave Optics (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- OSE 5312 Fundamentals of Optical Science (3 credit hours)

Thesis—6 Credit Hours

- PHY 6971 Thesis (6 credit hours)

Supervisory Committee

Within the first half-semester of admission to the planetary sciences graduate track, each student must select, by mutual agreement, a faculty adviser and two other faculty members to serve on his or her Supervisory Committee. One of the faculty members who is not the adviser must be from an area in the department other than Planetary Sciences. UCF faculty and self-funded research scientists are eligible to serve on supervisory committees. Changes in the membership of a Supervisory Committee must be approved by the Planetary Sciences Graduate Committee. The adviser is expected to meet regularly with the student. The full committee shall meet with the student at least once per semester to review and make recommendations regarding the student's academic progress.

Master's Defense

The written thesis and oral defense is the final requirement for the master's degree. The thesis is a journal-level research paper. The oral defense is two parts: (1) A public presentation of the research contained in the paper; and (2) private questioning on the detail of the presented research as well as the topics covered in the student's preparation and course work. The written and oral components will be administrated by the student's Supervisory Committee.

INDEPENDENT LEARNING

A thesis is required in this program.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants to this program must provide a bachelor's degree in physics, astronomy, geology, geophysics, geochemistry, atmospheric sciences, or planetary sciences, an official, competitive GRE score taken within the last five years, three letters of recommendation, statement of goals, and a résumé.

These application requirements are effective for those applying to Spring 2018 and beyond. For Fall 2017 application requirements, please visit http://2016-2017.graduatecatalog.ucf.edu/programs/

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in physics, astronomy, geology, geophysics, geochemistry, atmospheric sciences, or planetary sciences.
- Three letters of recommendation.
- Statement of goals.
- Résumé.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applicants interested in being considered for assistantship and fellowship opportunities should apply directly to the Physics PhD program.

Additional courses may also be required to correct any course deficiencies for those applicants without full preparation in physics and astronomy. Students entering the Physics graduate program with regular status are normally expected to have completed course work generally required for a bachelor's degree in physics, including mechanics, electricity and magnetism, thermal and statistical physics, and quantum mechanics. Students should contact the graduate program director for further information.

Current students in the existing Physics graduate program wishing to switch to the Planetary Sciences track must submit a letter to the Planetary Science Graduate Committee addressed to Dr. Dan Britt. The letter should include the request to join the planetary sciences track, the students degree goal (Masters), the name of the students planetary sciences adviser, and a brief description of their expected area of research. Upon departmental approval, a Graduate Status Change Form will be submitted to the College of Graduate Studies.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Planetary Sciences	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Esperanza Soto Arcino
Program Staff
soto@ucf.edu
407-823-5146
PSB 432

Political Science MA

PROGRAM DESCRIPTION

The Master of Arts in Political Science program prepares students to enter positions in government and the private sector in which the ability to comprehend, influence, and respond to government policy is critical and prepares interested students for pursuit of a PhD degree in Political Science or International Relations at other institutions.

The Master of Arts in Political Science program is designed to accommodate a range of professional and intellectual needs. The program prepares students to enter positions in government and the private sector in which the ability to comprehend, influence, and respond to government policy is critical and prepares interested students for pursuit of a PhD degree in Political Science or International Relations at other institutions. The program also provides a well-rounded substantive curriculum for secondary school teachers seeking higher degrees and for teachers in community colleges.

CURRICULUM

A Program of Study in the Master of Arts in Political Science consists of the following course work. Students have the option of completing a thesis with 27 hours of coursework or choosing the nonthesis option with 33 hours of coursework.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- POS 6736 Conduct of Political Inquiry (3 credit hours)
- POS 6746 Quantitative Methods in Political Research (3 credit hours)

Choose two of the following courses.

- POS 6045 Seminar in American Politics (3 credit hours)
- INR 6007 Seminar in International Politics (3 credit hours)
- CPO 6091 Seminar in Comparative Politics (3 credit hours)
- POT 6007 Seminar in Political Theory (3 credit hours)

Elective Courses—15 Credit Hours

- [Listing determined by catalog changes]

Thesis Option—6 Credit Hours

All MA students are automatically placed in the nonthesis option. Students wishing to write a thesis must get approval to do so.

- POS 6971 Thesis (6 credit hours)

After completion of the required course work and passing of comprehensive exams, the student must have a thesis advisory committee approved by the department and Graduate Studies. The thesis committee consists of a chair and two other faculty members from the Political Science department who are members of the Graduate Faculty. On the approval of the thesis chair and Graduate Program Director, one of the committee members (but not the chair) may come from outside the Political Science Department.

When a thesis topic has been selected, students, in conjunction with their thesis committee, will develop a thesis proposal. Copies of the proposal will be sent to members of their thesis committee and a proposal hearing scheduled in the first semester the student enrolls for thesis hours. All students must pass a proposal hearing as well as a final oral defense of their thesis.

Once enrolled in thesis hours, students should maintain continuous enrollment (3 credit hours) each semester up to and including the semester in which they defend the thesis.

In addition to department guidelines for the thesis, students should also become familiar with the university's requirements and deadlines for organizing and submitting the thesis.

Nonthesis Option—6 Credit Hours

The student must complete 6 additional credit hours of course electives in their respective areas. Thesis hours, if already taken, will not count for course credit for the 6 additional credit hours of coursework.

- Electives (6 credit hours)
- Complete an independent research project/paper

During the final semester of coursework, the student must have a nonthesis advisory committee approved by the department and Graduate Studies. The nonthesis committee consists of a chair and one other faculty member from the Political Science department. On the approval of the thesis chair and Graduate Program Director, one of the committee members (but not the chair) may come from outside the Political Science Department.

The student must complete an approved article-length independent research paper (minimum 8,000 words inclusive or 25 pages). The project/paper must have a component of original, independent research; it cannot be a literature review or research design only. The project/paper can be a product of a graduate research seminar and/or independent study paper. The student will present their research publicly at a department research colloquium or other public academic forum such as paper presentation at an academic conference. The project/paper must be evaluated by and receive formal confirmation of completion from the nonthesis advisory committee, the graduate coordinator, and the department chair.

If the paper is to be presented at a department research colloquium, the student is responsible for scheduling the presentation in consultation with the nonthesis advisory committee. They must register for the nonthesis option **at least six weeks prior** to the date of presentation.

Comprehensive Examination

All candidates for the MA degree must take a comprehensive written examination. The examination will be administered after satisfactory completion of the required course work, and must be taken prior to enrollment in thesis hours.

The exam is designed to demonstrate proficiency in research methods and will consist of two parts. Part I will involve the critique of an article from a political science journal. The article will be assigned by the department's Graduate Methods Committee in consultation with the student and where possible will be based on the student's substantive areas of interest. Part II will involve questions based on data analysis using either SPSS or STATA.

The examination will be offered once semester. Dates will be set by the department. Students must register to take the exam **at least six weeks prior** to its scheduled date.

Students not passing any part of the examination may take this part a second time within one calendar year on the dates that comprehensive exams are regularly scheduled. However, no student will be allowed to take the examination more than twice.

Equipment Fee

Full-time students in the Political Science MA program pay a $39 equipment fee each semester that they are enrolled. Part-time students pay $19.50 per semester.

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken in the last five years.
- Three letters of recommendation, attesting to the applicant's ability to think analytically and to communicate clearly.
- A personal statement of 500 words identifying areas of research interest in political science, faculty with whom they would like to work, and describing the applicant's academic and professional experiences and future career goals.

Student wishing to enroll in graduate courses in political science must meet the department's requirements for graduate status (either regular or conditional graduate status) or must hold regular graduate status in another program at UCF. Students who have not been accepted into a degree-seeking program at UCF may not enroll in political science graduate courses.

Meeting minimum UCF or departmental admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, and the applicant's potential for completing the degree.

Application Deadlines

Political Science MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Michael Mousseau PhD
Associate Professor
Program Director
michael.mousseau@ucf.edu
407-823-2608
HPH 302M

Public Administration MPA

PROGRAM DESCRIPTION

The Master of Public Administration (MPA) program is accredited by the Network of Schools of Public Policy, Affairs and Administration (NASPAA) and nationally ranked by U.S. News and World Report.

The program provides exciting opportunities for students to prepare for employment or advance their careers in public or nonprofit organizations.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The Master of Public Administration (MPA) program consists of 42 credit hours. Each student completes a core of nine courses (27 credit hours), an advanced curriculum of four electives (12 credit hours), and a capstone experience equivalent to one course (3 credit hours).

The Master of Public Administration is offered both in a campus-based classroom setting (face-to-face) and also completely online. The curriculum requirements below apply to both the campus-based and online options. Students must choose either the online option or the face-to-face option when they apply for admissions. Students in the campus-based program may enroll in a combination of online, mixed-mode and face-to-face classes. However, students in the online option may only enroll in online courses due to the difference in fees. For information on completing MPA exclusively online with a reduction in campus-based fees, please visit http://ucf.edu/online.

The face-to-face courses are offered evenings during the week on the main campus. The MPA program incorporates group projects into every course in both the online and campus-based options. Group projects are intended to develop leadership abilities while also providing an opportunity to demonstrate how students work as part of a team. Group projects promote important intellectual and social skills and help to prepare students for work in a world in which teamwork and collaboration are increasingly the norm.

Courses and credit hours used for undergraduate degrees cannot also be applied toward the MPA degree, except for Senior Scholar students. Students approved as undergraduates at UCF to participate in the Senior Scholar program may, with the permission of the MPA program director, use up to 9 credit hours of graduate course work taken as part of the bachelor's degree toward the MPA degree. However, no undergraduate-level courses will be accepted in the MPA program.

Total Credit Hours Required:

42 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—30 Credit Hours

Core—27 Credit Hours

- PAD 6700 Research Methods for Public Administration (3 credit hours)
- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- PAD 6037 Public Organization Management (3 credit hours)
- PAD 6701 Analytic Techniques for Public Administration (3 credit hours)

- PAD 6053 Public Administrators in the Governance Process (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6207 Public Financial Management (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)

Capstone—3 Credit Hours

- PAD 6062 Advanced Concepts and Applications in Public Administration (3 credit hours)

Students will engage in a capstone experience that builds upon the knowledge and skills gained from completing the core courses in the MPA program. Students will complete this requirement through enrollment in PAD 6062 Advanced Concepts and Applications in Public Administration. PAD 6062 is offered in fall and spring semesters only and may be taken following the completion of all core courses. It may not be combined with a core course in the same semester.

Electives—12 Credit Hours

- Electives (12 credit hours)

Elective courses offered within the School of Public Administration provide an emphasis on state and local government; however, other emphases may be developed in consultation with the Program Director and Academic Adviser. With prior approval from the MPA Program Director, up to 6 credit hours of elective course work may be taken from outside the school. Students must show that elective courses taken outside of the school directly support a career in public administration. The MPA program of study does not accept undergraduate-level courses.

Students interested in a professional management career may take elective courses from the School of Public Administration's graduate certificate programs in Nonprofit Management, Urban and Regional Planning, and Emergency Management to enhance their managerial skills. Students interested in a research career can work with the Program Director and Academic Adviser to take advanced research courses to strengthen their analytical skills.

Students without practical administrative experience in the public sector are strongly advised to complete an internship (3 credit hours) as part of their electives.

- PAD 6946 Internship (3 credit hours)

Additional Program Requirements

Students must achieve a grade of "B-" (80%) or higher in every course listed under core requirements and in the Capstone Experience (PAD 6062).

Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

The School of Public Administration incorporates service learning into some courses. Service learning is a teaching method that provides a means for every student to enhance his or her academic program with experiential learning opportunities. Service learning provides an opportunity for students to work with community partners by collecting and compiling data and producing quality products that will be beneficial to both students and organizations.

Students are expected to be computer literate and have computer internet access upon entry to the program.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry, dialogue and service learning. Tangible projects, such as scholarly research, papers, internships and the capstone experience also contribute to the self-development of MPA students. The research paper and Learning and Professional Development Portfolio in the Capstone Experience focus on reviewing and analyzing contemporary issues in the context of real world applications.

APPLICATION REQUIREMENTS

In addition to meeting general admission requirements, applicants must provide three letters of recommendation, a résumé, and a goal statement. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only. Admission is open to those with a bachelor's degree from a regionally accredited institution with a minimum overall undergraduate GPA of 3.0 (on a 4.0 scale) or in the last 60 hours.

The MPA program is offered as either a campus-based classroom (face-to-face) program or a completely online program. Applicants must select one option at the time of admission. Admission requirements and the admission process is the same regardless of which option the applicant chooses.

In addition to meeting general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation specifically for the MPA program evaluating scholarly and professional capacity. Letters from professors from the colleges/universities attended are preferred, but if that is not feasible, letters from current or past supervisors will be accepted. The recommender must address the applicant's work ethic and ability to succeed at graduate-level academic work.
- Current professional résumé including public service experience (paid or voluntary).
- Goal Statement: The goal statement is a key component of the admission review process and serves as an example of the applicant's ability to express himself or herself in writing. The goal statement must be no longer than two pages double spaced (500-800 words) and should address the following:
    - Personal background and career aspirations in public service.
    - Reason for pursuing graduate study in public administration, including future career goals and plans.
    - Specific areas of public administration that interests you.

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- All international students must meet university minimum TOEFL score requirements regardless of language in which the undergraduate program was completed.

Admission to this degree is competitive; applicants meeting the minimum university and/or program application requirements are not guaranteed admission to the program.

All requested material must be submitted by the established deadline date. Materials received after the established deadline may not be considered.

Application Deadlines

Public Administration MPA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Nasrin Lakhani
Program Staff
nasrin.lakhani@ucf.edu
407-823-0912
HPA 220

Public Administration MPA

Nonprofit Management MNM Dual Degree

TRACK DESCRIPTION

The Public Administration MPA – Nonprofit Management MNM Dual Degree Track provides the opportunity for students to earn graduate degrees from two academic programs, the Master of Public Administration and the Master of Nonprofit Management, concurrently. The program emphasizes nonprofit management and public administration research, theory, policy and organizational administration to prepare future public service organizational leaders in public, nonprofit, social service, and private organizations. After successful completion of the MNM/MPA Dual Degree program, students will receive two diplomas - one for the Public Administration MPA and one for the Nonprofit Management MNM degree.

Students seeking admission to the MNM/MPA Dual Degree program should apply directly to the Dual Degree track of either the Public Administration MPA program or the Nonprofit Management MNM program. Only one application will be required. If admitted, student will be active in the Dual Degree tracks of both the Public Administration MPA and the Nonprofit Management MNM programs.

Students previously admitted to the Public Administration MPA or the Nonprofit Management MNM program should consult with their adviser prior to completing 18 credit hours if interested in the MNM/MPA Dual Degree program.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The dual degree track (Master of Public Administration / Master of Nonprofit Management) consists of 54 credit hours. Each student completes all of the core courses for each program with 18 required core courses (54 credit hours), including two research methods and statistics courses (6 credit hours) and a capstone experience of two courses (6 credit hours).

Courses and credit hours used for undergraduate degrees cannot be counted toward the MPA/MNM track, except for Senior Scholar students who, with the permission of the MPA/MNM program director, may use up to 9 credit hours of graduate course work that was used in their undergraduate degree toward credit in the dual degree program.

Total Credit Hours Required:

54 Credit Hours Minimum beyond the Bachelor's Degree

Required Core Courses—42 Credit Hours

- PAD 5145 Volunteerism in Nonprofit Management (3 credit hours)
- PAD 5146 Nonprofit Resource Development (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- PAD 6037 Public Organization Management (3 credit hours)
- PAD 6053 Public Administrators in the Governance Process (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6207 Public Financial Management (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6237 Ethics and Governance in Nonprofit Management (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)

Research Methods/Statistics Core Requirements—6 Credit Hours

- PAD 6700 Research Methods in Public Administration (3 credit hours)
- PAD 6701 Analytic Techniques for Public Administration (3 credit hours)

Capstone Core Requirements—6 Credit Hours

- PAD 6149 Nonprofit Administration (3 credit hours)
- PAD 6062 Advanced Concepts and Applications in Public Administration (3 credit hours)

Students will engage in a capstone experience for both the MPA and the MNM programs that builds upon the knowledge and skills gained from completing the core courses. Students will complete this requirement through enrollment in PAD 6149 Nonprofit Administration and PAD 6062 Advanced Concepts and Applications in Public Administration. Capstone courses may only be taken following the completion of all core courses; they may not be combined with core courses in the same semester.

Additional Program Requirements

Students must achieve a grade of "B-" (80%) or higher in every course listed under core requirements. Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum, through the process of inquiry and dialogue. Tangible projects, such as scholarly research, papers, internships, and the capstone experience also contribute to the self-development of students. The research paper and Learning and Professional Development portfolio in the Capstone Experience focus on reviewing and analyzing contemporary issues in order to help students acquire knowledge and skills pertaining to research-based best practices. PAD 6062, the capstone course, provides the independent learning experience.

APPLICATION REQUIREMENTS

In addition to meeting general admission requirements, applicants must provide three letters of recommendation, a résumé, and a goal statement. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only. Admission is open to those with a bachelor's degree from a regionally accredited institution with a minimum overall undergraduate GPA of 3.5 (on a 4.0 scale) or in the last 60 hours.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript in a sealed envelope, from each college/university attended.
- Three letters of recommendation. Letters of recommendation must specifically address the applicant's ability to succeed in graduate coursework and his or her work ethic. Recommendation letters from professors are preferred, however, letters from supervisors are also acceptable.
- Résumé: The most current, professional resume should be provided.

- Statement of goals: This is a key component of the admission review process and serves as an example of the applicant's ability to express him or herself in writing. The goal statement must be no longer than two pages and should address the following:
    - Reason for pursuing graduate study in Nonprofit Management and Public Administration, including future goals and plans.
    - Specific areas of Nonprofit Management and Public Administration of interest.
    - Relevant experience, paid or as a volunteer (required).
    - What makes the applicant a special candidate for admission to this limited access program.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- All International students must meet university minimum TOEFL score requirements regardless of language in which the undergraduate program was completed.

Admission to this dual degree track is competitive; applicants meeting the minimum university and/or program application requirements are not guaranteed admission to the program.

All requested material must be submitted by the established deadline date. Material received after the established deadline may not be considered.

Students are expected to be computer literate upon entry to the program or are expected to obtain these skills immediately upon admission to the program.

Application Deadlines

Nonprofit Management MNM Dual Degree	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Nasrin Lakhani
Program Staff
nasrin.lakhani@ucf.edu
407-823-0912
HPA 220

Public Administration MPA

Criminal Justice MS Dual Degree

TRACK DESCRIPTION

The Public Administration MPA - Criminal Justice MS - Dual Degree Track provides the opportunity for students to earn graduate degrees from two academic programs, the Master of Public Administration and Master of Science in Criminal Justice, concurrently.

Students successfully completing this MPA/MS dual degree program will have the skills and analytical techniques for successful careers in both public administration and criminal justice. After successful completion of the MPA/MS dual degree program, students will receive two diplomas, one for Public Administration MPA and Criminal Justice MS.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The dual degree track (Master of Public Administration / Master of Criminal Justice) consists of 51 credit hours. Each student completes a core of 11 courses (33 credit hours), two research methods and statistics courses (6 credit hours), two electives (6 credit hours), and a capstone experience of two courses (6 credit hours).

Total Credit Hours Required:

51 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—45 Credit Hours

Core—33 Credit Hours

- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CCJ 6106 Policy Analysis in Criminal Justice (3 credit hours)
- CCJ 6118 Criminal Justice Organizations (3 credit hours)
- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- PAD 6037 Public Organization Management (3 credit hours)
- PAD 6053 Public Administrators in the Governance Process (3 credit hours)
- PAD 6207 Public Financial Management (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)

Research Methods/Statistics—6 Credit Hours

Students must select one PAD course and one CCJ course:

- PAD 6700 Research Methods in Public Administration (3 credit hours) or CCJ 6704 Research Methods in Criminal Justice (3 credit hours)
- PAD 6701 Analytic Techniques for Public Administration (3 credit hours) or CCJ 6706 Quantitative Methods and Computer Utilization in Criminal Justice (3 credit hours)

Capstone—6 Credit Hours

- PAD 6062 Advanced Concepts and Applications in Public Administration (3 credit hours)
- CJE 6718 Proseminar in Criminal Justice (3 credit hours)

Electives—6 Credit Hours

Select **two** of the following courses:

- CJC 5020 Foundations of Corrections (3 credit hours)
- CJE 5021 Foundations of Law Enforcement (3 credit hours)
- CJJ 6020 Juvenile Justice (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)
- CJL 6520 American Criminal Courts (3 credit hours)

Additional Program Requirements

Students must achieve a grade of “B” or higher in every CCJ course and a grade of “B- (80%)” or higher in every PAD course in the required courses, including the Capstone courses. Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum, through the process of inquiry and dialogue. Tangible projects, such as scholarly research, papers, internships, and the capstone experience also contribute to the self-development of students. The capstone courses, PAD 6062 and CJE 6718, provide the independent learning experience.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to meeting general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation specifically for the MPA/Criminal Justice MS program evaluating scholarly and professional capacity. Letters from professors from the colleges/universities attended are preferred, but if that is not feasible, letters from current or past supervisors will be accepted. The recommender must address the applicant’s work ethic and ability to succeed at graduate-level academic work.
- Current professional résumé including public service experience (paid or voluntary).
- Goal Statement: The goal statement is a key component of the admission review process and serves as an example of the applicant's ability to express himself or herself in writing. The goal statement must be no longer than two pages double spaced (500-800 words) and should address the following:
    - Personal background and career aspirations in public service.
    - Reason for pursuing graduate study in public administration, including future career goals and plans.
    - Specific areas of public administration that interests you.

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- All international students must meet university minimum TOEFL score requirements regardless of language in which the undergraduate program was completed.

Admission to this degree is competitive; applicants meeting the minimum university and/or program application requirements are not guaranteed admission to the program.

All requested material must be submitted by the established deadline date. Materials received after the established deadline may not be considered.

Application Deadlines

Criminal Justice MS Dual Degree	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jun 15	Nov 1	
International Applicants	Jan 15	Jan 15	Jul 1	
International Transfer Applicants	Jan 15	Mar 1	Sep 1	

CONTACT INFO

Nasrin Lakhani
Program Staff
nasrin.lakhani@ucf.edu
407-823-0912
HPA 220

Reading Education MEd

PROGRAM DESCRIPTION

The Master of Education in Reading Education program prepares teachers for certification as reading specialists (e.g., reading coach, reading expert, reading resource teacher, reading/language arts supervisor) in grades K-12 in public schools and private reading clinics.

The Master of Education in Reading Education is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

The College of Education and Human Performance offers a Master of Education degree in Reading Education. The program prepares teachers for certification as reading specialists (e.g., reading coach, reading expert, reading resource teacher, reading/language arts supervisor) in grades K-12 in public schools and private reading clinics. Assessment (screening, diagnosis, monitoring), instruction and intervention, reading in the content fields, management of reading programs, reading trends and research, and dimensions of the language arts other than reading are included among the curriculum. There is considerable emphasis on practica with diverse readers from early childhood to adult levels. Professionals currently certified as Florida teachers are eligible to pursue a degree in the program.

CURRICULUM

The Master of Education in Reading Education program requires a minimum of 30 credit hours beyond the bachelor's degree, including 9 credit hours of core courses, 15 credit hours of specialization courses, and 6 credit hours of a practicum. Students who do not currently hold a Florida ESOL Endorsement must select the specified Teaching English to Speakers of Other Languages course, TSL 5085, as a corequisite. All students must pass a final comprehensive exam, complete a portfolio according to program guidelines, and pass the Reading K-12 Subject Area Exam of the Florida Teacher Certification Examination.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

The following courses meet state certification requirements or as support for the degree program.

- RED 5147 Developmental Reading (3 credit hours) or RED 3012 Basic Foundations of Reading (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours) or RED 4519 Diagnostic and Corrective Reading Strategies (3 credit hours)

Corequisite

Students who are not ESOL Endorsed must complete the following course:

- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

Required Courses—24 Credit Hours

Core—9 Credit Hours

- EDF 6432 Measurement and Evaluation in Education (3 credit hours)

Choose one of the following courses:

- LAE 5415 Children's Literature in Elementary Education (3 credit hours)
- LAE 5465 Literature for Adolescents (3 credit hours)

Choose one of the following courses:

- LAE 5319 Methods of Elementary School Language Arts (3 credit hours)
- LAE 5346 Methods of Teaching English Language Arts (3 credit hours)

Specialization—15 Credit Hours

- RED 6116 Advanced Study in Foundations of Reading (3 credit hours)

- RED 6336 Reading in the Content Areas (3 credit hours)
- RED 6337 Reading in the Secondary School (3 credit hours)
- RED 6746 Management of Reading Programs (3 credit hours)
- RED 6845 Advanced Evaluation and Instruction in Reading (3 credit hours)

Practicum—6 Credit Hours

The MEd program requires a practicum experience. Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

- RED 6846 Reading Practicum (Prerequisite: RED 6845 or Consent of Instructor) (6 credit hours)

Additional Graduation Requirements

- All students must complete a comprehensive examination.
- Complete a portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass Reading K-12 Subject Area Exam of the Florida Teacher Certification Examination.

INDEPENDENT LEARNING

The MEd program also requires a practicum experience. Practica are independent learning activities that take place in authentic settings in which students must apply, reflect on, and refine knowledge and skills acquired in the program.

APPLICATION REQUIREMENTS

In addition to the general application requirements, applicants must possess or be fully eligible for a professional teaching certificate in one or more other teaching certification specializations in Florida. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Possess or be fully eligible for a professional teaching certificate in one or more other teacher certification specializations in Florida.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Reading Education Med	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Karri Williams PhD
Associate Professor
Program Director
Karri.Williams@ucf.edu

321-433-7922
UCF Cocoa (BC 357)

Real Estate MSRE

PROGRAM DESCRIPTION

The Professional Master of Science in Real Estate (PMRE) program was designed by the Dr. P. Phillips School of Real Estate as a flagship graduate program that prepares students to pursue careers in commercial real estate brokerage and appraisal, real estate development, mortgage brokerage, institutional real estate investment management, capital markets, and asset management.

This program is a professional program with a market rate tuition, and is considered a part-time program. The tuition is the same for Florida residents and non-residents. Please visit www.business.ucf.edu/graduate-programs for more information.

The program is:

- 20-month program offered in downtown Orlando
- Limited class size, cohort program
- Classes meet 2 evenings per week
- No work experience requirement
- Personal interview required for admission

The PMRE is a 20-month cohort program that meets two evenings per week, allowing the busy professional to work full-time while earning this degree. Classes are held at UCF's Executive Development Center located in downtown Orlando. PMRE students will find a high level of personal attention from program administrators from the moment they apply.

Students advance through all courses together as a cohort using their professional experience as an important addition to the learning process. The program's 30-credit-hour curriculum combines a professional business core with courses in finance, marketing, and accounting and advanced course work in real state. Students earn Argus Software Certification, and are eligible for the fast track to a CCIM designation upon graduation. Graduates of the professional PMRE program are equipped with highly applicable knowledge of real estate disciplines that enables them to advance their careers in a variety of organizations. Graduates are also well prepared to sit for the Florida real estate brokerage and appraisal licenses.

This program is a professional program with a market rate tuition, and is considered a part-time program. The tuition is the same for Florida residents and non-residents. Please visit www.business.ucf.edu/graduate-programsfor more information.

CURRICULUM

The Professional Master of Science in Real Estate (PMRE) program was designed by the Dr. P. Phillips School of Real Estate as a flagship graduate program that prepares students to pursue careers in commercial real estate brokerage and appraisal, real estate development, mortgage brokerage, institutional real estate investment management, capital markets, and asset management. Students earn Argus Software Certification and are eligible for the fast track to a CCIM designation upon graduation.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—30 Credit Hours

Finance Core—15 Credit Hours

- FIN 6406 Strategic Financial Management (3 credit hours)
- FIN 6465 Financial Analysis Seminar (3 credit hours)
- FIN 6515 Analysis of Investment Opportunities (3 credit hours)
- MAR 6816 Strategic Marketing Management (3 credit hours)
- ACG 6425 Managerial Accounting Analysis (3 credit hours)

Real Estate Core—15 Credit Hours

- REE 6006 Real Estate Markets and Institutions (3 credit hours)
- REE 6455 Real Estate Law (3 credit hours)
- REE 6209 Real Estate Finance and Investment Analysis (3 credit hours)
- REE 6147 Real Estate Market Analysis and Appraisal (3 credit hours)
- REE 6737 Real Estate Development (3 credit hours)

Capstone Course

The PMRE's capstone course, REE 6737 Real Estate Development, is required by all students. Students will create a comprehensive development project that covers the real estate development process, regulatory considerations, financial and market feasibility, management and control, and environmental aspects of real estate development.

Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- The GMAT is not required, however, the Admissions Committee may ask for the GMAT to strengthen a candidate's application packet.
- Three letters of recommendation or three e-mail addresses of recommenders.
- Prepare a career goal statement explaining why you want to earn a Master of Science degree in Real Estate; why you believe this is the right time for you to pursue this degree; and why you selected UCF.
- Résumé.
- Interview. Student will be contacted to schedule an interview after the application is complete.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) is required if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program whose completed bachelor's degree is from a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Early application tuition discounts are available for this program. To view early application discount deadlines, and for more information, visit the Executive Development Center website at www.business.ucf.edu/graduate-programs.

Application Deadlines

Real Estate MSRE	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 1		
International Applicants				
International Transfer Applicants				

CONTACT INFO

Robin Hofler
Program Staff
mba@bus.ucf.edu
407-235-3913
DTC 201B

Research Administration MRA

PROGRAM DESCRIPTION

The Master in Research Administration provides the professional skills and management theories and techniques to prepare individuals to practice as highly trained and ethical research administrators. The completely online program builds a solid foundation in research administration and leadership that enables graduates to work in a variety of research organizations such as universities, hospitals and medical centers, industry, and research institutes and centers.

This program is a professional program and is considered a part-time program. For more information, please visit www.ce.ucf.edu/Program-Search/1381/Master-Of-Research-Administration/.

Graduates of the program will be able to: integrate the history and values of the profession into a professional identity; apply organizational development theories in leadership and human resource management; demonstrate knowledge of and compliance with the legal, ethical and regulatory framework that governs research; apply sound financial management concepts in proposal development and funded sponsored projects; negotiate and monitor sponsored contracts and subcontracts; write and evaluate grant proposals; apply the law in regards to intellectual property, technology transfer and commercialization; identify new areas for collaborative grant opportunities; and respond to financial and non-financial audits of research grants and contracts.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The Master in Research Administration program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is offered completely online in a lock-step and cohort-based model. Students take two courses each semester and complete the degree program in two years (six semesters). In the final course students complete an evaluation project as a culminating activity that engages them in the application of theory, research policy, regulatory frameworks, ethics, and professional standards and practices within their area of focus.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—36 Credit Hours

Research Administration Concentration Core Courses—27 Credit Hours

- PAD 6742 Introduction to Research Administration (3 credit hours)
- PAD 6748 Governance and Regulatory Issues for Sponsored Programs (3 credit hours)
- PAD 6743 Leadership and Organization Models in Research Administration (3 credit hours)
- PAD 6744 Financial Management in Research Administration (3 credit hours)
- PAD 6745 Contracting for Sponsored Programs (3 credit hours)
- PAD 6746 Intellectual Property, Technology Transfer and Commercialization (3 credit hours)
- PAD 6747 Audits in Research Administration (3 credit hours)
- PAD 6741 Research Integrity for Research Administrators (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)

Additional Required Courses—9 Credit Hours

- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)

Additional Program Requirements

- Students must achieve a grade of "B-" (80%) or higher in all Research Administration concentration courses (PAD 67XX level and PAD 6327).
- Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

Cost Per Credit Hour

For the Master of Research Administration program, the cost per credit hour is $655.62.*

*Fee is subject to change

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry, dialogue and service learning. Tangible projects such as strategic plans, grant proposals, commercialization plans and case studies along with research projects, scholarly papers, internships, and presentations at professional conferences also contribute to the self development of our students.

APPLICATION REQUIREMENTS

In addition to meeting general admission requirements, applicants must provide three letters of recommendation, a résumé, and a goal statement. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only. Admission is open to those with a bachelor's degree from a regionally accredited institution with a minimum overall undergraduate GPA of 3.0 (on a 4.0 scale) or in the last 60 hours. This program does not accept State Employee Waivers.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation specifically for the MRA program. Letters of recommendation should be from professors, researchers, or professional research administrators who can attest to the applicant's ability to succeed in graduate coursework and his or her work ethic.
- Résumé: The most current, professional resume should be provided.
- Statement of goals: The goal statement is a key component of the admission review process and serves as an example of the applicant's ability to express him or herself in writing. The goal statement must be single-spaced, one-inch margins, and no longer than two pages (500-800 words). Applicant must address each item listed below when completing the goal statement:
    - Reason for pursuing graduate study in research administration, including future goals and plans.
    - Topics or areas of special interest in research administration.
    - Expectations of the graduate program.
    - What the applicant will bring to the program that would make him or her a special candidate for admission to this limited access program.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- All International students must meet university minimum TOEFL requirements regardless of language in which the undergraduate program was completed.

This program does not accept State Employee Waivers.

Admission to this program is limited. The Master in Research Administration is a highly competitive program that admits one cohort annually in the fall semester. Applicants are encouraged to apply early to this program because once the cohort reaches capacity for an entering class, admissions will be closed for that academic year.

All requested material must be submitted by the established deadline date. Materials received after the established deadline may not be considered.

Students are expected to be computer literate upon entry to the program. This program is completely online, so computer skills and computer internet access are necessary to take the courses.

Application Deadlines

Research Administration MRA	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants		Jan 15	Jul 1	Nov 1
International Transfer Applicants		Mar 1	Sep 1	Dec 15

CONTACT INFO

Jo Ann Smith PhD
Assistant Professor
Program Director
Jo.Smith@ucf.edu
407-823-2604
HPA II - Suite 238

Secondary Education MEd

- English Language Arts Education
- Mathematics Education
- Science Education
- Social Science Education

PROGRAM DESCRIPTION

Coursework includes secondary education courses as well as content-specific courses in each track.

This degree does not prepare students for initial, administrative, or supervisory certification.

CURRICULUM

The Master of Education in Secondary Education program requires a minimum of 33 credit hours beyond the bachelor's degree. Students from all tracks must complete the required 21 credit hours of core courses and culminating experiences. All students complete a capstone research project or thesis, which are course-based action research studies (i.e., application and analysis of the effectiveness of research-based best practices in the classroom). Additional course requirements vary by the student's chosen track.

Total Credit Hours Required:

33 Credit Hours Minimum beyond the Bachelor's Degree

This section describes the elements of the curriculum that are in common for all of the tracks.

Required Courses

Core—15 Credit Hours

All students take the Secondary Education core, regardless of their chosen specialization.

- EDS 5356 Mentoring and Clinical Supervision of Pre-professional Educators (3 credit hours)*
- ESE 5344 Managing the Secondary Classroom (3 credit hours)
- ESE 6036 Contemporary Issues in Secondary Education (3 credit hours)
- EME 6602 Integration of Technology into the Learning Environments (3 credit hours)
- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)

Culminating Experience—6 Credit Hours

Students complete either an action research project or a thesis.

- EDF 6472 Data-Driven Decision-Making for Instruction (3 credit hours)
- ESE 6427 Capstone: Action Research in Secondary Education (3 credit hours) or LAE, MAE, SCE, or SSE 6971 Thesis (6 credit hours)

*Must be taken in first semester of the program.

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a culminating experience.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

Janet Andreasen PhD
Lecturer
Program Director
janet.andreasen@ucf.edu
ED 123-Q

Secondary Education MEd

English Language Arts Education

TRACK DESCRIPTION

The English Language Arts Education track in the Secondary Education MEd program is designed to meet the advanced knowledge and skill needs of the English classroom teacher.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

CURRICULUM

The English Language Arts Education track in the Master of Education (MEd) in Secondary Education program requires 21 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 12 credit hours of specialization courses.

Total Credit Hours Required:

33-36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—33-36 Credit Hours

Core—15 Credit Hours

All students take the Secondary Education core, regardless of their chosen specialization.

- EDS 5356 Mentoring and Clinical Supervision of Pre-professional Educators (3 credit hours)*
- ESE 5344 Managing the Secondary Classroom (3 credit hours)
- ESE 6036 Contemporary Issues in Secondary Education (3 credit hours)

- EME 6602 Integration of Technology into the Learning Environments (3 credit hours)
- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)

Culminating Experience—6 Credit Hours

Students complete either an action research project or a thesis.

- EDF 6472 Data-Driven Decision-Making for Instruction (3 credit hours)
- ESE 6427 Capstone: Action Research in Secondary Education (3 credit hours) or LAE, MAE, SCE, or SSE 6971 Thesis (6 credit hours)

*Must be taken in first semester of the program.

Specialization—12 Credit Hours

Students take four of the following courses:

- LAE 6637 Research in Teaching English (3 credit hours)
- LAE 5295 Writing Workshop (3 credit hours)
- LAE 5369 Literacy Strategies in a Digital Age for Middle and High School (3 credit hours)
- LAE 5495 Assessing Writing (3 credit hours)
- LAE 6296 Advanced Writing Workshop (3 credit hours)
- LAE 6366 Advanced Studies in Adolescent Literature (3 credit hours)

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

English Language Arts Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Elsie Olan PhD
Assistant Professor
Program Director
elsie.olan@ucf.edu
407-823-5179
Education 223 N

Secondary Education MEd

Mathematics Education

TRACK DESCRIPTION

The Mathematics Education track in the Secondary Education MEd program is designed to meet the advanced knowledge and skill needs of the classroom teacher of mathematics.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

CURRICULUM

The Mathematics Education track in the Secondary Education MEd program requires 21 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 12 credit hours of specialization courses.

Total Credit Hours Required:

33-36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—33-36 Credit Hours

Core—15 Credit Hours

All students take the Secondary Education core, regardless of their chosen specialization.

- EDS 5356 Mentoring and Clinical Supervision of Pre-professional Educators (3 credit hours)*
- ESE 5344 Managing the Secondary Classroom (3 credit hours)
- ESE 6036 Contemporary Issues in Secondary Education (3 credit hours)
- EME 6602 Integration of Technology into the Learning Environments (3 credit hours)
- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)

Culminating Experience—6 Credit Hours

Students complete either an action research project or a thesis.

- EDF 6472 Data-Driven Decision-Making for Instruction (3 credit hours)
- ESE 6427 Capstone: Action Research in Secondary Education (3 credit hours) or LAE, MAE, SCE, or SSE 6971 Thesis (6 credit hours)

*Must be taken in first semester of the program.

Specialization—12 Credit Hours

Students take the following courses:

- MAE 6337 Teaching Algebra in the Secondary School (3 credit hours)
- MAE 6338 Teaching Geometry in the Secondary School (3 credit hours)

Select two of the following courses:

- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- MAE 6641 Problem Solving and Critical Thinking Skills (3 credit hours)
- MAE 6656 Using Technology in the Instruction of K-12 Mathematics (3 credit hours)
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)
- IDS 6516 Leadership Development for Mathematics and Science Teachers (3 credit hours)
- IDS 6910 Research in Mathematics and Science Education (3 credit hours)

- IDS 6937 Teaching Mathematics and Science Using Reform-based Practices (3 credit hours)
- IDS 6939 Reforming Curriculum in Mathematics and Science Education (3 credit hours)

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Mathematics Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Erhan Haciomeroglu PhD
Program Director
erhan.haciomeroglu@ucf.edu
407-823-4336
ED 123H

Secondary Education MEd

Science Education

TRACK DESCRIPTION

The Science Education track in the Secondary Education MEd program is designed to meet the advanced knowledge and skill needs of certified secondary science teachers, enabling them to expand their subject matter knowledge and professional teaching skills.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

CURRICULUM

The Science Education track in the Secondary Education MEd program requires 21 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 12 credit hours of specialization courses.

Total Credit Hours Required:

33-36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—33-36 Credit Hours

Core—15 Credit Hours

All students take the Secondary Education core, regardless of their chosen specialization.

- EDS 5356 Mentoring and Clinical Supervision of Pre-professional Educators (3 credit hours)*
- ESE 5344 Managing the Secondary Classroom (3 credit hours)
- ESE 6036 Contemporary Issues in Secondary Education (3 credit hours)
- EME 6602 Integration of Technology into the Learning Environments (3 credit hours)
- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)

Culminating Experience—6 Credit Hours

Students complete either an action research project or a thesis.

- EDF 6472 Data-Driven Decision-Making for Instruction (3 credit hours)
- ESE 6427 Capstone: Action Research in Secondary Education (3 credit hours) or LAE, MAE, SCE, or SSE 6971 Thesis (6 credit hours)

*Must be taken in first semester of the program.

Specialization—12 Credit Hours

Select two of the following courses:

- SCE 5836 Space and Physical Science for Educators (3 credit hours)
- ISC 6146 Environmental Education for Educators (3 credit hours)
- IDS 6516 Leadership Development for Mathematics and Science Teachers (3 credit hours)
- IDS 6910 Research in Mathematics and Science Education (3 credit hours)
- IDS 6937 Teaching Mathematics and Science Using Reform-based Practices (3 credit hours)
- IDS 6939 Reforming Curriculum in Mathematics and Science Education (3 credit hours)

Select two courses in one of the following graduate science content areas:

Biology Focus

- HUN 5247 Principles of Human Nutrition (3 credit hours)
- IDS 5127 Foundation of Bio-Imaging Science (3 credit hours)
- BCH 6740 Advanced Biochemistry (3 credit hours)
- Any graduate-level course with prefix BSC, HSC, MCB, PCB, or ZOO

Chemistry Focus

- BCH 6740 Advanced Biochemistry (3 credit hours)
- HUN 5247 Principles of Human Nutrition (3 credit hours)
- Any graduate-level course with prefix CHM or CHS

Physics Focus

- Any graduate-level course with prefixes AST, OSE, PHY, or PHZ

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Science Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Malcolm Butler PhD
Associate Professor
Program Director
malcolm.butler@ucf.edu
407-823-3272
ED 322-T

Secondary Education MEd

Social Science Education

TRACK DESCRIPTION

The Social Science Education track in the Secondary Education MEd program is designed to meet advanced knowledge and skill needs of the Social Science classroom teacher.

This graduate program partners with the Peace Corps Paul D. Coverdell Fellows Program. If you are a returning Peace Corps volunteer, see Peace Corps Coverdell Fellows for more information about attending graduate school at UCF.

CURRICULUM

The Social Science Education track in the Secondary Education MEd program requires 21 credit hours of core courses, including completion of a capstone research project or thesis. In addition, students take 12 credit hours of specialization courses.

Total Credit Hours Required:

33-36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—33-36 Credit Hours

Core—15 Credit Hours

All students take the Secondary Education core, regardless of their chosen specialization.

- EDS 5356 Mentoring and Clinical Supervision of Pre-professional Educators (3 credit hours)*
- ESE 5344 Managing the Secondary Classroom (3 credit hours)
- ESE 6036 Contemporary Issues in Secondary Education (3 credit hours)
- EME 6602 Integration of Technology into the Learning Environments (3 credit hours)
- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)

Culminating Experience—6 Credit Hours

Students complete either an action research project or a thesis.

- EDF 6472 Data-Driven Decision-Making for Instruction (3 credit hours)
- ESE 6427 Capstone: Action Research in Secondary Education (3 credit hours) or LAE, MAE, SCE, or SSE 6971 Thesis (6 credit hours)

*Must be taken in first semester of the program.

Specialization—12 Credit Hours

Students take four of the following courses:

- SSE 5391 Global Education: Theory and Practice (3 credit hours)
- SSE 5776 Democracy and Education (3 credit hours)
- SSE 6348 Foundations and Fundamentals of Teaching History in the K-12 Classroom (3 credit hours)
- SSE 6388 Digital History in the K-12 Classroom (3 credit hours)
- SSE 6387 Teaching with Film (3 credit hours)
- SSE 6396 Teaching with Primary Sources in the History Classroom (3 credit hours)
- SSE 6636 Contemporary Social Science Education (3 credit hours)

INDEPENDENT LEARNING

The MEd requires a course-based action research study and completion of a capstone experience (research report or thesis).

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Evidence of eligibility for a professional teaching certificate in Florida in related area and/or sustained teaching experience within schools/colleges (approved by track coordinator).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Social Science Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Scott Waring PhD
Associate Professor
Program Director
socscied@ucf.edu
407-823-1766
ED 206J

Social Work MSW

PROGRAM DESCRIPTION

The Master of Social Work (MSW) program prepares students for advanced social work practice. The program educates students for community-based clinical social work practice with individuals, families, and groups. The MSW program is accredited by the Council on Social Work Education (CSWE).

The program offers multiple tracks to allow students to progress through the required MSW curriculum on either a full-time or part-time plan of study. The Orlando Full-Time Track and Orlando Part-Time Track are available for students who do not have a BSW degree. The Orlando Full-Time Advanced Standing Track is available for students who have completed a BSW degree from a CSWE-accredited program within the last six years. More information on the plans of study and requirements for each track is given in the individual track descriptions.

Students who apply for admission into the online part-time track will not be permitted to switch to the on campus, face to face program and students who apply for the on campus, face to face program will not be permitted to switch to the Online part-time track.

The curriculum draws from a generalist perspective and emphasizes critical thinking skills, empirically based accountable practice, and ethical services for clients experiencing a wide range of problems. Students learn preventive and therapeutic interventions aimed at enhancing human functioning and quality of life. Graduates of the program have the ability to work with diverse clients in a variety of agency settings.

The MSW program strives to educate students to become successful practitioners in the field of clinical social work. To that end, the National Association of Social Workers (NASW) Code of Ethics is re-enforced throughout the academic curriculum. Students who violate the NASW Code of Ethics may be subject to academic sanctions or dismissed from the program.

APPLICATION REQUIREMENTS

The Master of Social Work Program offers several options to students including full-time study, advanced standing admission, as well as mixed mode and online classes to support part-time study. Applicants must choose a track in this program. Track(s) may have different requirements.

The Master of Social Work Program offers several options to students including full-time study, advanced standing admission, as well as mixed mode and online classes to support part-time study. Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

Lisa Johannes
Program Staff
lisa.johannes@ucf.edu
407-823-3474
HPA 1 236B

Social Work MSW

Online Part-Time

TRACK DESCRIPTION

The Online Master of Social Work (MSW) Part-Time Track allows students who do not have a BSW degree to complete the MSW required curriculum online over the course of three years.

The first year of study in the Online Master of Social Work (MSW) Part-Time Track includes 18 credit hours in class work. The second year of study includes 15 credit hours in class work and 6 credit hours in the field. The third year of study include 15 credit hours in class work and 8 credit hours in the field.

The MSW program strives to provide students with the education needed to become successful practitioners in the field of clinical social work. The National Association of Social Workers (NASW) Code of Ethics is enforced throughout the academic curriculum. Students who violate the NASW Code of Ethics may be subject to academic sanctions or dismissed from the program.

Students who apply for admission into the Online Part-Time Track will not be permitted to switch to the on campus, face-to-face track due to the strict cohort model the track follows.

This track is completed entirely online and charges an enhanced tuition rate. As such, Online MSW students are not permitted to enroll in any certificate programs through UCF. Please visit UCF Online for additional information about tuition and fees.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The 62-hour MSW program is composed of 39 credit hours of required core and advanced clinical specialization courses. In addition, students complete 9 credit hours of electives and 14 credit hours of field experience. Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers, and internships also contribute to the self-development of our students. Students in the 62-hour program must include at least 31 hours of course work at the 6000 level in their program of study.

Educational standards for all social work programs are established by the Council on Social Work Education (CSWE), the national accreditation body for professional social work education. Curriculum direction and content is regulated by the CSWE through its accreditation standards. The MSW program at UCF is fully accredited through CSWE.

Total Credit Hours Required:

62 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

The Council on Social Work Education (CSWE) require that all applicants have an undergraduate degree from an accredited institution. The School of Social Work requires that applicants have successfully completed (with a grade of B- or higher) at least one course in each of the following tracks: **Humanities** (examples: fine arts, history, languages, literature, music philosophy, or religion); **Physical and Biological sciences and Mathematics** (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and **Social Sciences** (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology).

Required Courses—39 Credit Hours

Core—21 Credit Hours

The core provides the foundation curriculum for the generalist Social Work practice.

- SOW 5107 Human Behavior in the Social Environment (3 credit hours)
- SOW 5217 Foundations of Behavioral Health Policy and Social Work Practice (3 credit hours)
- SOW 5132 Diverse Client Populations (3 credit hours)
- SOW 5235 Social Welfare Policies and Services (3 credit hours)
- SOW 5305 Social Work Practice I: Generalist Practice (3 credit hours)
- SOW 5306 Social Work Practice II: Intervention Approaches (3 credit hours)
- SOW 5404 Social Work Research (3 credit hours)

Clinical Specialization—18 Credit Hours

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6424 Theories for Evidence-Based Clinical Practice in Social Work (3 credit hours)
- SOW 6433 Clinical Evaluation in Social Work Practice (3 credit hours)

Electives—9 Credit Hours

One elective is required as a component of the foundation curriculum and two clinical electives are required as components of the clinical specialization. Students in the online track will take clinical electives for all three required MSW electives.

- Clinical Elective
- Clinical Elective
- Clinical Elective

Field Experience—14 Credit Hours

- Generalist Field Education and Seminars (6 credit hours)
- Clinical field Education and Seminars (8 credit hours)

Field instruction is an integral part of graduate social work education. It provides the student with an opportunity to test classroom knowledge as well as to develop and refine foundation and advanced practice skills. Decisions regarding field assignment are determined by the Field Director. Only agency sites approved by the School of Social Work may be used for field instruction. Generalist MSW students complete a minimum of 400 hours in the field; clinical MSW students complete a minimum of 600 clock hours in the field. Field education includes a field seminar.

Students must complete at least 50% of their field hours during the agency's normal business hours. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Consequently, field placements cannot be guaranteed to students who require evening and weekend placements.

Many social work agencies have students complete background checks, including formal background checks, law enforcement finger printing, driving records, and criminal record checks. In most instances, the expense for the background check is the responsibility of the student. We urge students to seek this information prior to entering the field experience if there is sensitive information that may prevent you from being accepted at an agency. Students must also report any background issues on field application so that an appropriate placement can be made.

The UCF School of Social Work cannot guarantee a field placement or subsequent degree completion for students who do not pass background checks.

Required Sequence of Curriculum

First Semester

- Term 1.1 - SOW 5107 Human Behavior in the Social Environment
- Term 1.2 - SOW 5132 Diverse Client Populations

Second Semester

- Term 2.1 - SOW 5217 Foundations of Behavioral Health Policy and Social Work Practice
- Term 2.2 - SOW 5404 Social Work Research

Third Semester

- Term 3.1 - SOW 5305 Social Work Practice I
- Term 3.2 - Clinical Elective

Fourth Semester

- Term 4.1 - SOW 5306 Social Work Practice II
- SOW 5565 PT MSW Generalist Field/Seminar I

Fifth Semester

- Term 5.1 - Clinical Elective
- Term 5.2 - SOW 5235 Social Welfare Policies
- SOW 5566 PT MSW Generalist Field/Seminar II

Sixth Semester

- Term 6.1 - SOW 6123 Psychosocial Pathology
- Term 6.2 - SOW 6424 Theories for Evidence-based Clinical Social Work Practice
- SOW 5567 PT MSW Generalist Field/Seminar III

Seventh Semester

- Term 7.1 - SOW 6348 Practice with Individuals
- Term 7.2 - SOW 6612 Practice with Families
- SOW 6561 PT MSW Clinical Field/Seminar I

Eighth Semester

- Term 8.1 - SOW 6433 Clinical Evaluation in Social Work Practice
- Term 8.2 - Clinical Elective
- SOW 6562 PT MSW Clinical Field/Seminar II

Ninth Semester

- Term 9.1 - SOW 6324 Practice with Groups
- SOW 6563 PT MSW Clinical Field/Seminar III

Transfer Credit

Academic credit for life experience and previous work experience shall not be given, in whole or in part, in lieu of Social Work courses required to fulfill degree requirements.

Due to the cohort nature of the track, transfer credits will not be accepted for the Online MSW track.

Equipment Fee

Full-time students in the MSW program pay a $35 equipment fee each semester that they are enrolled. Part-time students pay $17.50 per semester.

Cost Per Credit Hour

For the Online Part-Time Social Work track in the Social Work MSW program, the cost per credit hour is $487.45.*

*Includes all university fees, which may be subject to change.

Tuition waivers are not accepted for the Online MSW.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students. The field experiences and practice electives provide substantial opportunities for students to learn independently and practically about social work practice.

APPLICATION REQUIREMENTS

In addition to meeting the general application requirements, students must provide three letters of recommendation, résumé, a professional statement, and writing sample. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Applicants will be granted admission to the MSW program based on a majority approval from the Admissions Review Sub-committee.

In addition, to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Successful completion (with a grade of B- or higher) of at least one course in each of the following tracks: Humanities (examples: fine arts, history, languages, literature, music philosophy, or religion); Physical and Biological sciences and Mathematics (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and Social Sciences (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology).
- Up to date Résumé.
- Three current letters of recommendation (written within the past year). Applicants must provide a letter of recommendation from each of the following (letters from co-workers, colleagues, mentors, friends, family members, etc. will not be considered):
    - Academic: A professor from a previously attended college/university who taught you in a course. Recommendations from full-time faculty are strongly encouraged. For applicants who have been out of college for five or more years, the applicant may substitute an employment based recommendation. Letters from advisors will not be considered unless they also taught you as a student.
    - Employment: Either volunteer or paid employment immediate supervisor.
    - Third recommendation: A second academic or employment based recommendation should be submitted for the third recommendation.

- A professional statement. Applicants must answer the following questions within 3-6 pages. Please use headings for each question.
    1. Without disclosing personal information, what are the reasons and experiences that led you to choose social work as a profession?
    2. What are your social work career interests?
    3. What are your personal strengths that you can bring to this profession? How have these strengths been demonstrated in the past?
    4. Where do you see yourself 10 years from now in the field of social work?
    5. What major social issue do you think that professional social workers should be concerned with? What is the role of social work in relation to this issue?
    6. As a social worker, you will be expected to practice ethically according to the National Association of Social Workers (NASW) Code of Ethics www.socialworkers.org/pubs/code/code.asp. This includes working with diverse populations and clients whose values and beliefs may differ from your own. How you will incorporate and uphold the NASW Code of Ethics into your work with diverse populations?
    7. The MSW program requires students to complete a generalist (400 hours) internship and a clinical (600 hours) internship concurrent with their coursework. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Given the above considerations, please tell us how you plan to balance your internship hours with your coursework and personal obligations. Tell us about any challenges you may have and how you plan to overcome them.
- Writing sample. Applicants must submit an individually-authored research paper or literature review written for any class in their undergraduate studies, preferably one that is related to social work. Group papers will not be accepted. The paper should be 5-10 pages in length, contain citations, and a reference list in APA format, and will be used to evaluate the applicant's ability to write professionally. The applicant must be the sole author of this paper. Submissions of papers where the applicant is co-author will not be considered. Interviews, book reviews, movie reviews, case notes, client assessments, and case studies will not be considered. If the applicant does not have an academic paper, then he/she must write a 5-10 page paper in APA format that addresses any social issue related to social work.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Please note: *The MSW program only accepts one application from each prospective student per academic year. Applicants must choose to apply to one track and one semester only.*

The Master of Social Work program can accommodate only a limited number of students; therefore there is a possibility of being denied admission even when all criteria are met.

To be accepted into and retained in the program, students are expected to demonstrate initiative, dependability, social concern, self awareness, appreciation for diversity in others, problem solving ability, ease in relating with others, skill in writing and speaking, and professional ethics.

The School of Social Work reserves the right to refuse student entrance or dismiss a student after admission to the MSW program if, in the judgment of the faculty, the student demonstrates behaviors incongruent to working in the field of social work and/or violates the National Association of Social Workers (NASW) Code of Ethics.

Application Deadlines

Online Part-Time	Fall Priority	Fall	Spring	Summer
Domestic Applicants		May 1	Oct 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Shawn Lawrence PhD, LCSW
Associate Professor
Program Director
shawn.lawrence@ucf.edu
407-823-3112
HPA 1 Suite 204

Social Work MSW

Orlando Part-Time Advanced Standing

TRACK DESCRIPTION

The Online Master of Social Work (MSW) Part-Time Advanced Standing Track is offered completely online and allows students with baccalaureate degrees in Social Work from a CSWE-accredited school/program who demonstrate academic potential and professional maturity to complete the MSW degree in four semesters of graduate study.

To be considered for advanced standing admission, the bachelor's degree must have been completed within six years of the time of initial enrollment in the master's program.

The MSW program strives to educate students to become successful practitioners in the field of clinical social work. To that end, the National Association of Social Workers (NASW) Code of Ethics is reinforced throughout the academic curriculum. Students who violate the NASW Code of Ethics may be subject to academic sanctions or dismissed from the program.

This track is completed entirely online and charges an enhanced tuition rate. As such, Online MSW students are not permitted to enroll in any certificate programs through UCF. Please visit UCF Online for additional information about tuition and fees.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

Please note: This program may be completed online, although not all elective options or program prerequisites may be offered online. Newly admitted students choosing to complete this program exclusively via UCF online classes may enroll with a reduction in campus-based fees. See http://ucf.edu/online for more information.

International students (F or J visa) are required to enroll in a full-time course load of 9 credit hours during the fall and spring semesters. Only 3 of the 9 credit hours may be taken in a completely online format. For a detailed listing of enrollment requirements for international students, please visit www.international.ucf.edu. If you have questions, please consult International Affairs and Global Strategies at 407-823-2337.

UCF is not authorized to provide online courses or instruction to students in some states. Refer to State Restrictions for current information.

CURRICULUM

The 32-hour MSW program is composed of 18 credit hours of required core and advanced clinical specialization courses. In addition, students complete 6 credit hours of electives and 8 credit hours of field experience. Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

Total Credit Hours Required:

32 Credit Hours Minimum beyond the Bachelor's Degree

Educational standards for all social work programs are established by the Council on Social Work Education (CSWE), the national accreditation body for professional social work education. Curriculum direction and content is regulated by the CSWE through its accreditation standards. The MSW program at UCF is fully accredited through CSWE.

Prerequisites

The Council on Social Work Education (CSWE) require that all applicants have an undergraduate degree from an accredited institution. The School of Social Work requires that applicants have successfully completed (with a grade of B- or higher) at least one course in each of the following tracks: **Humanities** (examples: fine arts, history, languages, literature, music philosophy, or religion); **Physical and Biological sciences and Mathematics** (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and **Social Sciences** (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology)."

Required Courses—18 Credit Hours

Clinical Specialization—18 Credit Hours

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6433 Clinical Evaluation in Social Work Practice (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)

- SOW 6424 Theories for Evidence-Based Clinical Practice in Social Work (3 credit hours)

Electives—6 Credit Hours

Two clinical electives are required as components of the clinical specialization. They are selected in consultation with adviser and MSW graduate program director.

- Clinical elective (3 credit hours)
- Clinical elective (3 credit hours)

Approved clinical electives:

- SOW 6109 Violence Against Women: A Global Perspective (Clinical)
- SOW 6155 Human Sexuality in Social Work Practice (Clinical)
- SOW 6383 Social Work Administration (Practice/Non-clinical)
- SOW 6603 Social Work in Health Settings (Clinical)
- SOW 6604 Medications in Social Work Practice (Advanced Clinical)
- SOW 6608 Understanding and Managing Combat Related Behavioral and Mental Health Disorders (Clinical)
- SOW 6610 Clinical Practice with Military and Veteran Families (Clinical)
- SOW 6635 Social Work Practice in Schools (Clinical)
- SOW 6644 Interventions with Older Adults and Their Families (Clinical)
- SOW 6652 Children Services in Social Work (Clinical)
- SOW 6655 Child Abuse: Treatment and Prevention (Clinical)
- SOW 6670 Clinical Social Work Practice with LGBTQ+ (Advanced Clinical)
- SOW 6712 Clinical Social Work Practice with Substance Addictions (Clinical)
- SOW 6713 Prevention and Treatment of Adolescent Substance Use and Misuse (Clinical)
- SOW 6726 Social Work Practice with Children from Birth to Age Five and Their Families (Clinical)
- SOW 6727 Core Concepts of Child and Adolescent Trauma Clinical)
- SOW 6735 Documentation Skills for Helping Professionals (Clinical)
- SOW 6756 Forensic Social Work (Clinical)
- SOW 6846 Spirituality in Clinical Social Work Practice (Clinical)

Field Experience—8 Credit Hours

- Clinical Field Education and Seminars (8 credit hours)

Field instruction is an integral part of graduate social work education. It provides the student with an opportunity to test classroom knowledge as well as to develop and refine foundation and advanced practice skills. Decisions regarding field assignment are determined by the Field Director. Only agency sites approved by the School of Social Work may be used for field instruction. Clinical MSW students complete a minimum of 600 clock hours in the field. Field education includes a field seminar.

Students must complete at least 50% of their field hours during the agency's normal business hours. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Consequently, field placements cannot be guaranteed to students who require evening and weekend placements.

Many social work agencies have students complete background checks, including formal background checks, law enforcement finger printing, driving records, and criminal record checks. In most instances, the expense for the background check is the responsibility of the student.

We urge students to seek this information prior to entering the field experience if there is sensitive information that may prevent you from being accepted at an agency. Students must also report any background issues on field application so that an appropriate placement can be made.

The UCF School of Social Work cannot guarantee a field placement or subsequent degree completion for students who do not pass background checks.

Required Sequence of Curriculum

First Semester (Summer)

- SOW 6123 Psychosocial Pathology
- SOW 6424 Theories for Evidence-Based Clinical Social Work Practice

Second Semester (Fall)

- SOW 6348 Practice with Individuals
- SOW 6612 Practice with Families
- SOW 6561 PT MSW Clinical Field/Seminar I

Third Semester (Spring)

- SOW 6433 Clinical Evaluation for Social Workers
- SOW 6324 Practice with Groups
- SOW 6562 PT MSW Clinical Field/Seminar II

Fourth Semester (Summer)

- SOW Clinical elective
- SOW Clinical elective
- SOW 6563 PT MSW Clinical Field/Seminar III

Transfer Credit

Academic credit for life experience and previous work experience shall not be given, in whole or in part, in lieu of Social Work courses required to fulfill degree requirements.

Students who have completed course work in an accredited MSW program may transfer up to 9 credit hours of non-field coursework toward the 62 credit hours of the degree. Students must have received a grade of “B-” or higher in these courses. Courses will be evaluated on a course-by-course basis by the MSW Coordinator. Students seeking to transfer to the School of Social Work from another CSWE accredited social work program are required to meet the criteria for admission and follow the application procedures. Additionally, one of the academic references must be from the MSW Program Coordinator or academic adviser in the program from which the applicant is transferring and must address the academic standing in that program. If not currently enrolled, the reference must be from the former MSW Program Coordinator or academic adviser. Syllabi are required for any social work classes being considered for transfer credit.

As per university policy, transfer credits will not be considered for the market based fully online part time track.

Equipment Fee

Full-time students in the MSW program pay a $35 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

The field experiences and practice electives provide substantial opportunities for students to learn independently and practically about social work practice.

APPLICATION REQUIREMENTS

In addition, to meeting the general application requirements, students must provide three letters of recommendation, résumé, a professional statement, and writing sample. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applicants will be granted admission to the MSW program based on a majority approval from the Admissions Review Sub-committee.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Successful completion (with a grade of B- or higher) at least one course in each of the following tracks: Humanities (examples: fine arts, history, languages, literature, music philosophy, or religion); Physical and Biological sciences and Mathematics (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and Social Sciences (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology).
- Up-to-date Résumé.
- Three current letters of recommendation that must have been written within the last academic year. ***Letters from co-workers, colleagues, mentors, friends, family members, etc. will not be considered:***
    - Academic: A professor from a previously attended college/university **who** taught you in a course. Recommendations from full-time faculty are strongly encouraged. For applicants who have been out of college for five or more years, the applicant may substitute an employment based recommendation. Letters from advisors will not be considered unless indicated that they also taught you as a student.
    - Employment: Either volunteer or paid employment immediate supervisor.
    - Field: A field faculty/seminar instructor or a task supervisor who has directly supervised the applicant in a social work field internship setting or field seminar class.

- A professional statement. Applicants must answer the following questions within 3-6 pages. Please use headings for each question.

1. Without disclosing personal information, what are the reasons and experiences that led you to choose social work as a profession?
2. What are your social work career interests?
3. What are your personal strengths that you can bring to this profession? How have these strengths been demonstrated in the past?

4. Where do you see yourself 10 years from now in the field of social work?
5. What major social issue do you think that professional social workers should be concerned with? What is the role of social work in relation to this issue?
6. As a social worker, you will be expected to practice ethically according to the National Association of Social Workers (NASW) Code of Ethics www.socialworkers.org/pubs/code/code.asp. This includes working with diverse populations and clients whose values and beliefs may differ from your own. How you will incorporate and uphold the NASW Code of Ethics into your work with diverse populations?
7. The MSW program requires students to complete a generalist (400 hours) internship and a clinical (600 hours) internship concurrent with their coursework. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Given the above considerations, please tell us how you plan to balance your internship hours with your coursework and personal obligations. Tell us about any challenges you may have and how you plan to overcome them.

- Applicants must submit an individually-authored research paper or literature review written for any class in their undergraduate studies, preferably one that is related to social work. Group papers will not be accepted. The paper should be 5-10 pages in length, contain citations, and a reference list in APA format, and will be used to evaluate the applicant's ability to write professionally. The applicant must be the sole author of this paper. Submissions of papers where the applicant is co-author will not be considered. Interviews, book reviews, movie reviews, case notes, client assessments, and case studies will not be considered. If the applicant does not have an academic paper, then he/she must write a 5-10 page paper in APA format that addresses any social issue related to social work.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Please note:*The MSW program only accepts one application from each prospective student per academic year. Applicants must choose to apply to one track and one semester only*

The Master of Social Work program can accommodate only a limited number of students; therefore there is a possibility of being denied admission even when all criteria are met.

Students are admitted and can begin course work in summer semesters only. To be accepted into and retained in the program, students are expected to demonstrate: initiative, dependability, social concern, self-awareness, appreciation for diversity in others, the ability to problem-solve, ease in relating with others, skill in writing and speaking, and professional ethics.

The School of Social Work reserves the right to refuse student entrance or dismiss a student after admission to the MSW program if, in the judgment of the faculty, the student demonstrates behavior incompatible with working in the field of social work and/or violates the National Association of Social Workers (NASW) Code of Ethics.

Advanced Standing

To be considered for advanced standing admission, applicants must have a baccalaureate degree in Social Work from a CSWE-accredited program and demonstrate the academic potential and professional maturity to meet the demands of the program with a 3.3 GPA in their last 60 credits.

Previous baccalaureate course work that received at least a "B-" will be reviewed to ensure content equivalency. In advanced standing admission, a maximum of 30 foundation level credits may be waived based on the content equivalency to meet foundation year MSW requirements, which consist of courses in human behavior and the social environment, policy, research, social work practice, and social work field placement.

To be considered for advanced standing admission, the bachelor's degree must have been completed within six years of the time of initial enrollment in the master's program.

Application Deadlines

Orlando Part-Time Advanced Standing	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				Nov 1
International Transfer Applicants				Dec15

CONTACT INFO

Bonnie Yegidis
Chair
bonnie.yegidis@ucf.edu
407-823-2114
HPA - 204A

Social Work MSW

Orlando Full-Time Advanced Standing

TRACK DESCRIPTION

The Master of Social Work (MSW) Program, Orlando Full-Time Advanced Standing Track allows students with baccalaureate degrees in Social Work from a CSWE-accredited school/program who demonstrate academic potential and professional maturity to complete the MSW in one year of graduate study.

To be considered for advanced standing admission, the bachelor's degree must have been completed within six years of the time of initial enrollment in the master's program. The Orlando Full-Time Advanced Standing Track is offered at the main campus and may be completed in three semesters (summer, fall and spring).

The MSW program strives to provide students with the education needed to become successful practitioners in the field of clinical social work. The National Association of Social Workers (NASW) Code of Ethics is enforced throughout the academic curriculum. Students who violate the NASW Code of Ethics may be subject to academic sanctions or dismissed from the program.

CURRICULUM

The 32-hour MSW program is composed of 18 credit hours of required core and advanced clinical specialization courses. In addition, students complete 6 credit hours of electives and 8 credit hours of field experience. Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

Previous baccalaureate course work that received at least a "B-" will be reviewed to ensure content equivalency. In advanced standing admission, a maximum of 30 foundation-level credits may be waived based on the content equivalency to meet foundation year MSW requirements, which consist of courses in human behavior and the social environment, policy, research, social work practice, and social work field placement.

Educational standards for all social work programs are established by the Council on Social Work Education (CSWE), the national accreditation body for professional social work education. Curriculum direction and content is regulated by the CSWE through its accreditation standards. The MSW program at UCF is fully accredited through CSWE.

Total Credit Hours Required:

32 Credit Hours Minimum beyond the Bachelor's Degree

Educational standards for all social work programs are established by the Council on Social Work Education (CSWE), the national accreditation body for professional social work education. Curriculum direction and content is regulated by the CSWE through its accreditation standards. The MSW program at UCF is fully accredited through CSWE.

Prerequisites

The Council on Social Work Education (CSWE) require that all applicants have an undergraduate degree from an accredited institution. The School of Social Work requires that applicants have successfully completed (with a grade of B- or higher) at least one course in each of the following tracks: **Humanities** (examples: fine arts, history, languages, literature, music philosophy, or religion); **Physical and Biological sciences and Mathematics** (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and **Social Sciences** (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology).”

Required Courses—18 Credit Hours

Clinical Specialization—18 Credit Hours

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6433 Clinical Evaluation in Social Work Practice (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6424 Theories for Evidence-Based Clinical Practice in Social Work (3 credit hours)

Electives—6 Credit Hours

Two clinical electives are required.

- Clinical elective (3 credit hours)
- Clinical elective (3 credit hours)

Approved clinical electives:

- SOW 6109 Violence Against Women: A Global Perspective (Clinical)
- SOW 6155 Human Sexuality in Social Work Practice (Clinical)
- SOW 6603 Clinical Social Work Practice in Health Settings (Clinical)
- SOW 6604 Medications in Social Work Practice (Advanced Clinical)
- SOW 6608 Understanding and Managing Combat Related Behavioral and Mental Health Disorders (Clinical)
- SOW 6610 Clinical Practice with Military and Veteran Families (Clinical)
- SOW 6635 Social Work Practice in Schools (Clinical)
- SOW 6644 Interventions with Older Adults and Their Families (Clinical)
- SOW 6652 Children Services in Social Work (Clinical)
- SOW 6655 Child Abuse: Treatment and Prevention (Clinical)
- SOW 6670 Clinical Social Work Practice with LGBTQ+ (Advanced Clinical)
- SOW 6712 Clinical Social Work Practice with Substance Addictions (Clinical)
- SOW 6713 Prevention and Treatment of Adolescent Substance Use and Misuse (Clinical)
- SOW 6726 Social Work Practice with Children from Birth to Age Five and Their Families (Clinical)
- SOW 6727 Core Concepts of Child and Adolescent Trauma (Clinical)
- SOW 6735 Documentation Skills for Helping Professionals (Clinical)
- SOW 6756 Forensic Social Work (Clinical)
- SOW 6846 Spirituality in Clinical Social Work Practice (Clinical)

Field Experience—8 Credit Hours

- Clinical Field Education and Seminars (8 credit hours)

Field instruction is an integral part of graduate social work education. It provides the student with an opportunity to test classroom knowledge; to develop and refine both foundation and advanced practice skills. Decisions regarding field assignment are determined by the Field Director. Only agency sites approved by the School of Social Work may be used for field instruction. Clinical MSW students complete a minimum of 600 clock hours in the field. Field education includes a field seminar.

Students must complete at least 50% of their field hours during the agency's normal business hours. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Consequently, field placements cannot be guaranteed to students who require evening and weekend placements.

Many social work agencies have students complete background checks, including formal background checks, law enforcement finger printing, driving records, and criminal record checks. In most instances, the expense for the background check is the responsibility of the student. We urge students to seek this information prior to entering the field experience if there is sensitive information that may prevent you from being accepted at an agency. Students must also report any background issues on field application so that an appropriate placement can be made.

The UCF School of Social Work cannot guarantee a field placement or subsequent degree completion for students who do not pass background checks.

Required Sequence of Curriculum

First Semester (Summer)

- SOW 6123 Psychosocial Pathology
- SOW 6424 Theories for Evidence-Based Clinical Social Work Practice

Second Semester (Fall)

- SOW 6324 Clinical Practice with Groups
- SOW 6348 Clinical Practice with Individuals
- SOW 6612 Clinical Practice with Families
- SOW 6531 FT MSW Clinical Field/Seminar I

Third Semester (Spring)

- SOW 6433 Clinical Evaluation in Social Work Practice
- SOW Clinical elective
- SOW Clinical elective
- SOW 6536 FT MSW Clinical Field/Seminar II

Transfer Credit

Academic credit for life experience and previous work experience shall not be given, in whole or in part, in lieu of Social Work courses required to fulfill degree requirements.

Students who have completed course work in an accredited MSW program may transfer up to 9 credit hours non-field courses toward the 32 credit hours of the degree. Students must have received a grade of "B-" or higher in these courses. Courses will be evaluated on a course-by-course basis by the MSW Coordinator. Students seeking to transfer to the School of Social Work from another CSWE accredited social work program are required to meet the criteria for admission and follow the application procedures. Additionally, one of the academic references must be from the MSW Program Coordinator or academic adviser in the program from which the applicant is transferring and must address the academic standing in that program. If not currently enrolled, the reference must be from the former MSW Program Coordinator or academic adviser. Syllabi are required for any social work classes being considered for transfer credit.

As per university policy, transfer credits will not be considered for the market based fully online part time track.

Equipment Fee

Full-time students in the MSW program pay a $35 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

The field experiences and practice electives provide substantial opportunities for students to learn independently and practically about social work practice.

APPLICATION REQUIREMENTS

In addition to meeting the general application requirements, students must provide three letters of recommendation, résumé, a professional statement, and writing sample. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applicants will be granted admission to the MSW program based on a majority approval from the Admissions Review Sub-committee.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Successful completion (with a grade of B- or higher) at least one course in each of the following tracks: Humanities (examples: fine arts, history, languages, literature, music philosophy, or religion); Physical and Biological sciences and Mathematics (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and Social Sciences (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology).
- Up to date Résumé.
- Three letters of recommendation that must have been written within the last academic year. ***Letters from co-workers, colleagues, mentors, friends, family members, etc. will not be considered.***

- Applicants must provide a letter of recommendation from each of the following:
    - Academic: A professor from a previously attended college/university who taught you in a course. Recommendations from full-time faculty are strongly encouraged. For applicants who have been out of college for five or more years, the applicant may substitute an employment based recommendation. Letters from advisors will not be considered unless indicated that they also taught you as a student.
    - Employment: Either volunteer or paid employment immediate supervisor.
    - Field: A field faculty/seminar instructor or a task supervisor who has directly supervised the applicant in a social work field internship setting or field seminar class.
- A professional statement. Applicants must answer the following questions within 3-6 pages. Please use headings for each question.
    1. Without disclosing personal information, what are the reasons and experiences that led you to choose social work as a profession?
    2. What are your social work career interests?
    3. What are your personal strengths that you can bring to this profession? How have these strengths been demonstrated in the past?
    4. Where do you see yourself 10 years from now in the field of social work?
    5. What major issue do you think that professional social workers should be concerned with? What is the role of social work in relation to this issue?
    6. As a social worker, you will be expected to practice ethically according to the National Association of Social Workers (NASW) Code of Ethics https://www.socialworkers.org/pubs/code/code.asp. This includes working with diverse populations and clients whose values and beliefs may differ from your own. How you will incorporate and uphold the NASW Code of Ethics into your work with diverse populations?
    7. The MSW program requires students to complete a clinical (600 hours) internship concurrent with their coursework. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Given the above considerations, please tell us how you plan to balance your internship hours with your coursework and personal obligations. Tell us about any challenges you may have and how you plan to overcome them.
- Applicants must submit an individually-authored research paper or literature review written for any class in their undergraduate studies, preferably one that is related to social work. Group papers will not be accepted. The paper should be 5-10 pages in length, contain citations, and a reference list in APA format, and will be used to evaluate the applicant's ability to write professionally. The applicant must be the sole author of this paper. Submissions of papers where the applicant is co-author will not be considered. Interviews, book reviews, movie reviews, case notes, client assessments, and case studies will not be considered. If the applicant does not have an academic paper, then he/she must write a 5-10 page paper in APA format that addresses any social issue related to social work.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Please note:*The MSW program only accepts one application from each prospective student per academic year. Applicants must choose to apply to one track and one semester only*

The Master of Social Work program can accommodate only a limited number of students; therefore there is a possibility of being denied admission even when all criteria are met.

Students are admitted and can begin course work in summer semesters only. To be accepted into and retained in the program, students are expected to demonstrate: initiative, dependability, social concern, self-awareness, appreciation for diversity in others, the ability to problem-solve, ease in relating with others, skill in writing and speaking, and professional ethics.

The School of Social Work reserves the right to refuse student entrance or dismiss a student after admission to the MSW program if-- in the judgment of the faculty-- the student demonstrates behavior incompatible with working in the field of social work and/or violates the National Association of Social Workers (NASW) Code of Ethics

Advanced Standing

To be considered for advanced standing admission, applicants must have a baccalaureate degree in Social Work from a CSWE-accredited program and demonstrate the academic potential and professional maturity to meet the demands of the program with a 3.3 GPA in their last 60 credits.

Previous baccalaureate course work that received at least a "B-" will be reviewed to ensure content equivalency. In advanced standing admission, a maximum of 30 foundation level credits may be waived based on the content equivalency to meet foundation year MSW requirements, which consist of courses in human behavior and the social environment, policy, research, social work practice, and social work field placement.

To be considered for advanced standing admission, the bachelor's degree must have been completed within six years of the time of initial enrollment in the master's program.

Application Deadlines

Orlando Full-Time Advanced Standing	Fall Priority	Fall	Spring	Summer
Domestic Applicants				
International Applicants				Nov 1
International Transfer Applicants				Dec 15

CONTACT INFO

Shawn Lawrence PhD, LCSW
Associate Professor
Program Director
shawn.lawrence@ucf.edu
407-823-3112
HPA 1 Suite 204

Social Work MSW

Orlando Full-Time

Total Credit Hours Required:

62 Credit Hours Minimum beyond the Bachelor's Degree

TRACK DESCRIPTION

The Master of Social Work (MSW), Orlando Full-Time Track allows students who do not have a BSW degree to complete the MSW required curriculum in two years of full-time study at the main Orlando campus.

The first year of study in the Master of Social Work (MSW), Orlando Full-Time Track includes 24 credit hours in class work and 6 credit hours in field education. The second year of study includes 24 credit hours in class work and 8 credit hours in the field.

The MSW program strives to provide students with the education needed to become successful practitioners in the field of clinical social work. The National Association of Social Workers (NASW) Code of Ethics is enforced throughout the academic curriculum. Students who violate the NASW Code of Ethics may be subject to academic sanctions or dismissed from the program.

CURRICULUM

The 62-hour MSW program is composed of 39 credit hours of required core and advanced clinical specialization courses. In addition, students complete 9 credit hours of electives and 14 credit hours of field experience. Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers, and internships also contribute to the self-development of our students. Students in the 62-hour program must include at least 31 hours of course work at the 6000 level in their program of study.

Educational standards for all social work programs are established by the Council on Social Work Education (CSWE), the national accreditation body for professional social work education. Curriculum direction and content is regulated by the CSWE through its accreditation standards. The MSW program at UCF is fully accredited through CSWE.

Prerequisites

The Council on Social Work Education (CSWE) require that all applicants have an undergraduate degree from an accredited institution. The School of Social Work requires that applicants have successfully completed (with a grade of B- or higher) at least one course in each of the following tracks: **Humanities** (examples: fine arts, history, languages, literature, music philosophy, or religion); **Physical and Biological sciences and Mathematics** (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and **Social Sciences** (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology).”

Required Courses—39 Credit Hours

Core—21 Credit Hours

The core provides the foundation curriculum for the generalist Social Work practice.

- SOW 5107 Human Behavior in the Social Environment (3 credit hours)
- SOW 5217 Foundations of Behavioral Health Policy and Social Work Practice (3 credit hours)
- SOW 5132 Diverse Client Populations (3 credit hours)
- SOW 5235 Social Welfare Policies and Services (3 credit hours)
- SOW 5305 Social Work Practice I: Generalist Practice (3 credit hours)
- SOW 5306 Social Work Practice II: Intervention Approaches (3 credit hours)
- SOW 5404 Social Work Research (3 credit hours)

Clinical Specialization—18 Credit Hours

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6424 Theories for Evidence-Based Clinical Practice in Social Work (3 credit hours)
- SOW 6433 Clinical Evaluation in Social Work Practice (3 credit hours)

Electives—9 Credit Hours

One elective is required as a component of the foundation curriculum and two clinical electives are required as components of the clinical specialization. Students may choose to take clinical electives for all three required MSW electives.

- Practice/ non clinical or clinical elective (3 credit hours)
- Clinical elective (3 credit hours)
- Clinical elective (3 credit hours)

Approved electives:

- SOW 5149 Military and Veteran Culture with Historical Framework (Practice/Non-clinical)
- SOW 6109 Violence Against Women: A Global Perspective (Clinical)
- SOW 6155 Human Sexuality in Social Work Practice (Clinical)
- SOW 6383 Social Work Administration (Practice/Non-clinical)
- SOW 6603 Clinical Social Work Practice in Health Settings (Clinical)
- SOW 6604 Medications in Social Work Practice (Advanced Clinical)
- SOW 6608 Understanding and Managing Combat Related Behavioral and Mental Health Disorders (Clinical)
- SOW 6610 Clinical Practice with Military and Veteran Families (Clinical)
- SOW 6635 Social Work Practice in Schools (Clinical)
- SOW 6644 Interventions with Older Adults and Their Families (Clinical)
- SOW 6652 Children Services in Social Work (Clinical)
- SOW 6655 Child Abuse: Treatment and Prevention (Clinical)
- SOW 6670 Clinical Social Work Practice with LGBTQ+ (Advanced Clinical)
- SOW 6712 Clinical Social Work Practice with Substance Addictions (Clinical)
- SOW 6713 Prevention and Treatment of Adolescent Substance Use and Misuse (Clinical)
- SOW 6726 Social Work Practice with Children from Birth to Age Five and Their Families (Clinical)
- SOW 6727 Core Concepts of Child and Adolescent Trauma (Clinical)
- SOW 6735 Documentation Skills for Helping Professionals (Clinical)
- SOW 6756 Forensic Social Work (Clinical)
- SOW 6846 Spirituality in Clinical Social Work Practice (Clinical)
- SOW 6914 Integrative Research Project in Clinical Practice (Non-clinical)

Field Experience—14 Credit Hours

- Generalist Field Education and Seminars (6 credit hours)
- Clinical Field Education and Seminars (8 credit hours)

Field instruction is an integral part of graduate social work education. It provides the student with an opportunity to test classroom knowledge as well as to develop and refine foundation and advanced practice skills. Decisions regarding field assignment are determined by the Field Director. Only agency sites approved by the School of Social Work may be used for field instruction. Generalist MSW students complete a minimum of 400 hours in the field; clinical MSW students complete a minimum of 600 clock hours in the field. Field education includes a field seminar.

Students must complete at least 50% of their field hours during the agency's normal business hours. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Consequently, field placements cannot be guaranteed to students who require evening and weekend placements.

Many social work agencies have students complete background checks, including formal background checks, law enforcement finger printing, driving records, and criminal record checks. In most instances, the expense for the background check is the responsibility of the student. We urge students to seek this information prior to entering the field experience if there is sensitive information that may prevent you from being accepted at an agency. Students must also report any background issues on field application so that an appropriate placement can be made.

The UCF School of Social Work cannot guarantee a field placement or subsequent degree completion for students who do not pass background checks.

Required Sequence of Curriculum

Required Sequence of Curriculum

First Semester (Fall)

- SOW 5217 Foundations of Behavioral Health Policy and Social Work Practice
- SOW 5132 Diverse Client Populations
- SOW 5305 Social Work Practice I
- SOW 5404 Social Work Research
- SOW 5538 FT MSW Generalist Field/Seminar I

Second Semester (Spring)

- SOW 5306 Social Work Practice II
- SOW 5404 Social Work Research
- SOW 5217 Foundations of Behavioral Health Policy and Social Work Practice
- SOW Elective
- SOW 5539 FT MSW Generalist Field/Seminar II

Third Semester (Summer)

- SOW 6123 Psychosocial Pathology

- SOW 6424 Theories for Evidence-based Clinical Social Work Practice

Fourth Semester (Fall)

- SOW 6348 Clinical Practice with Individuals
- SOW 6612 Clinical Practice with Families
- SOW 6324 Clinical Practice with Groups
- SOW 6531 FT MSW Clinical Field/Seminar I

Fifth Semester (Spring)

- SOW 6433 Clinical Evaluation in Social Work Practice
- SOW Clinical elective
- SOW Clinical elective
- SOW 6536 FT MSW Clinical Field/Seminar II

Transfer Credit

Academic credit for life experience and previous work experience shall not be given, in whole or in part, in lieu of Social Work courses required to fulfill degree requirements.

Students who have completed course work in an accredited MSW program may transfer up to 30 credit hours toward the 62 credit hours of the degree. Students must have received a grade of "B-" or higher in these courses. Courses will be evaluated on a course-by-course basis by the MSW Coordinator. Field courses will be evaluated by the Coordinator for Field Education. Students seeking to transfer to the School of Social Work from another CSWE accredited social work program are required to meet the criteria for admission and follow the application procedures. Additionally, one of the academic references must be from the MSW Program Coordinator or academic adviser in the program from which the applicant is transferring and must address the academic standing in that program. If not currently enrolled, the reference must be from the former MSW Program Coordinator or academic adviser. Syllabi are required for any social work classes being considered for transfer credit.

As per university policy, transfer credits will not be considered for the market based fully online part time track.

Equipment Fee

Full-time students in the MSW program pay a $35 equipment fee each semester that they are enrolled.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

The field experiences and practice electives provide substantial opportunities for students to learn independently and practically about social work practice.

APPLICATION REQUIREMENTS

In addition to meeting the general application requirements, students must provide three letters of recommendation, résumé, a professional statement, and writing sample. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applicants will be granted admission to the MSW program based on a majority approval from the Admissions Review Sub-committee.

In addition, to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Successful completion (with a grade of B- or higher) at least one course in each of the following tracks: Humanities (examples: fine arts, history, languages, literature, music philosophy, or religion); Physical and Biological sciences and Mathematics (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and Social Sciences (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology).
- Up-to-date Résumé.
- Three current letters of recommendation that have been written within the last academic year. ***Letters from co-workers, colleagues, mentors, friends, family members, etc. will not be considered.***

Applicants must provide a letter of recommendation from each of the following:

- Academic: A professor from a previously attended college/university who taught you in a course. Recommendations from full-time faculty are strongly encouraged. For applicants who have been out of college for five or more years, the applicant may substitute an employment based recommendation. Letters from advisors will not be considered unless indicated that they also taught you as a student.
- Employment: Either volunteer or paid employment immediate supervisor.
- Third Recommendation: A second academic or employment-based recommendation should be submitted fro the third recommendation.

- A professional statement. Applicants must answer the following questions within 3-6 pages. Please use heading for each question.

1. Without disclosing personal information, what are the reasons and experiences that led you to choose social work as a profession?
2. What are your social work career interests?
3. What are your personal strengths that you can bring to this profession? How have these strengths been demonstrated in the past?
4. Where do you see yourself 10 years from now in the field of social work?
5. What major issue do you think that professional social workers should be concerned with? What is the role of social work in relation to this issue?
6. As a social worker, you will be expected to practice ethically according to the National Association of Social Workers (NASW) Code of Ethics www.socialworkers.org/pubs/code/code.asp. This includes working with diverse populations and clients

whose values and beliefs may differ from your own. How you will incorporate and uphold the NASW Code of Ethics into your work with diverse populations?

7. The MSW program requires students to complete a generalist (400 hours) internship and a clinical (600 hours) internship concurrent with their coursework. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Given the above considerations, please tell us how you plan to balance your internship hours with your coursework and personal obligations. Tell us about any challenges you may have and how you plan to overcome them.

- Applicants must submit an individually-authored research paper or literature review written for any class in their undergraduate studies, preferably one that is related to social work. Group papers will not be accepted. The paper should be 5-10 pages in length, contain citations, and a reference list in APA format, and will be used to evaluate the applicant's ability to write professionally. The applicant must be the sole author of this paper. Submissions of papers where the applicant is co-author will not be considered. Interviews, book reviews, movie reviews, case notes, client assessments, and case studies will not be considered. If the applicant does not have an academic paper, then he/she must write a 5-10 page paper in APA format that addresses any social issue related to social work.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Please note: *The MSW program only accepts one application from each prospective student per academic year. Applicants must choose to apply to one track and one semester only*

The Master of Social Work program can accommodate only a limited number of students; therefore there is a possibility of being denied admission even when all criteria are met.

To be accepted into and retained in the program, students are expected to demonstrate: initiative, dependability, social concern, self-awareness, appreciation for diversity in others, the ability to problem-solve, ease in relating with others, skill in writing and speaking, and professional ethics.

The School of Social Work reserves the right to refuse student entrance or dismiss a student after admission to the MSW program if, in the judgment of the faculty, the student demonstrates behavior incompatible with working in the field of social work and/or violates the National Association of Social Workers (NASW) Code of Ethics.

MSW graduates from CSWE accredited programs outside of UCF who need to complete a field placement for Florida licensure (LCSW) must apply to the MSW program as a full-time or part-time second year clinical student.

Application Deadlines

Orlando Full-Time	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Shawn Lawrence PhD, LCSW
Associate Professor
Program Director
shawn.lawrence@ucf.edu
407-823-3112
HPA 1 Suite 204

Social Work MSW

Orlando Part-Time

TRACK DESCRIPTION

The Master of Social Work (MSW) Program, Orlando Part-Time Track allows students who do not have a BSW degree to complete the MSW required curriculum at the main Orlando Campus.

The first year of study in the Master of Social Work (MSW) Program, Orlando Part-Time Track includes 18 credit hours in class work. The second year of study include 18 credit hours in class work and 6 credit hours in the field. The third year of study include 12 credit hours in class work and 8 credit hours in the field.

The MSW program strives to provide students with the education needed to become successful practitioners in the field of clinical social work. The National Association of Social Workers (NASW) Code of Ethics is enforced throughout the academic curriculum. Students who violate the NASW Code of Ethics may be subject to academic sanctions or dismissed from the program.

CURRICULUM

The 62-hour MSW program is composed of 39 credit hours of required core and advanced clinical specialization courses. In addition, students complete 9 credit hours of electives and 14 credit hours of field experience. Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students. Students in the 62-hour program must include at least 31 hours of course work at the 6000 level in their program of study.

Educational standards for all social work programs are established by the Council on Social Work Education (CSWE), the national accreditation body for professional social work education. Curriculum direction and content is regulated by the CSWE through its accreditation standards. The MSW program at UCF is fully accredited through CSWE.

Total Credit Hours Required:

62 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisites

The Council on Social Work Education (CSWE) require that all applicants have an undergraduate degree from an accredited institution. The School of Social Work requires that applicants have successfully completed (with a grade of B- or higher) at least one course in each of the following tracks: **Humanities** (examples: fine arts, history, languages, literature, music philosophy, or religion); **Physical and Biological sciences and Mathematics** (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and **Social Sciences** (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology).

Required Courses—39 Credit Hours

Core—21 Credit Hours

The core provides the foundation curriculum for the generalist Social Work practice.

- SOW 5107 Human Behavior in the Social Environment (3 credit hours)
- SOW 5217 Foundations of Behavioral Health Policy and Social Work Practice (3 credit hours)
- SOW 5132 Diverse Client Populations (3 credit hours)
- SOW 5235 Social Welfare Policies and Services (3 credit hours)
- SOW 5305 Social Work Practice I: Generalist Practice (3 credit hours)
- SOW 5306 Social Work Practice II: Intervention Approaches (3 credit hours)
- SOW 5404 Social Work Research (3 credit hours)

Clinical Specialization—18 Credit Hours

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6424 Theories for Evidence-Based Clinical Practice in Social Work (3 credit hours)
- SOW 6433 Clinical Evaluation in Social Work Practice (3 credit hours)

Electives—9 Credit Hours

One elective is required as a component of the foundation curriculum and two clinical electives are required as components of the clinical specialization. Students may choose to take clinical electives for all three required MSW electives.

- Practice/Non-clinical or Clinical Elective (3 credit hours)
- Clinical elective (3 credit hours)
- Clinical elective (3 credit hours)

Approved electives:

- SOW 5149 Military and Veteran Culture with Historical Framework (Practice/Non-clinical)
- SOW 6109 Violence Against Women: A Global Perspective (Clinical)
- SOW 6155 Human Sexuality in Social Work Practice (Clinical)
- SOW 6383 Social Work Administration (Practice/Non-clinical)
- SOW 6603 Clinical Social Work Practice in Health Settings (Clinical)
- SOW 6604 Medications in Social Work Practice (Advanced Clinical)
- SOW 6608 Understanding and Managing Combat Related Behavioral and Mental Health Disorders Clinical)
- SOW 6610 Clinical Practice with Military and Veteran Families Clinical)

- SOW 6635 Social Work Practice in Schools (Clinical)
- SOW 6644 Interventions with Older Adults and Their Families (Clinical)
- SOW 6652 Children Services in Social Work (Clinical)
- SOW 6655 Child Abuse: Treatment and Prevention (Clinical)
- SOW 6670 Clinical Social Work Practice with LGBTQ+ (Advanced Clinical)
- SOW 6712 Clinical Social Work Practice with Substance Addictions (Clinical)
- SOW 6713 Prevention and Treatment of Adolescent Substance Use and Misuse (Clinical)
- SOW 6726 Social Work Practice with Children from Birth to Age Five and Their Families (Clinical)
- SOW 6727 Core Concepts of Child and Adolescent Trauma (Clinical)
- SOW 6735 Documentation Skills for Helping Professionals (Clinical)
- SOW 6756 Forensic Social Work (Clinical)
- SOW 6846 Spirituality in Clinical Social Work Practice (Clinical)
- SOW 6914 Integrative Research Project in Clinical Practice (Non-clinical)

Field Experience—14 Credit Hours

- Generalist Field Education and Seminars (6 credit hours)
- Clinical Field Education and Seminars (8 credit hours)

Field instruction is an integral part of graduate social work education. It provides the student with an opportunity to test classroom knowledge as well as to develop and refine foundation and advanced practice skills. Decisions regarding field assignment are determined by the Field Director. Only agency sites approved by the School of Social Work may be used for field instruction. Generalist MSW students complete a minimum of 400 hours in the field; clinical MSW students complete a minimum of 600 clock hours in the field. Field education includes a field seminar.

Students must complete at least 50% of their field hours during the agency's normal business hours. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Consequently, field placements cannot be guaranteed to students who require evening and weekend placements.

Many social work agencies have students complete background checks, including formal background checks, law enforcement finger printing, driving records, and criminal record checks. In most instances, the expense for the background check is the responsibility of the student. We urge students to seek this information prior to entering the field experience if there is sensitive information that may prevent you from being accepted at an agency. Students must also report any background issues on field application so that an appropriate placement can be made.

The UCF School of Social Work cannot guarantee a field placement or subsequent degree completion for students who do not pass background checks.

Required Sequence of Curriculum

First Semester (Fall)

- SOW 5107 Human Behavior in the Social Environment
- SOW 5132 Diverse Client Populations

Second Semester (Spring)

- SOW 5404 Social Work Research
- SOW 5217 Foundations of Behavioral Health Policy and Social Work Practice

Third Semester (Summer)

- SOW 5305 Social Work Practice I
- SOW Elective

Fourth Semester (Fall)

- SOW 5306 Social Work Practice II
- SOW 5235 Social Work Welfare Policy
- SOW 5565 PT MSW Generalist Field/Seminar I

Fifth Semester (Spring)

- SOW 5566 PT MSW Generalist Field/Seminar II
- SOW Clinical Elective

Sixth Semester (Summer)

- SOW 5567 PT MSW Generalist Field/Seminar III
- SOW 6424 Theories for Evidence-based Clinical Social Work Practice
- SOW 6123 Psychosocial Pathology

Seventh Semester (Fall)

- SOW 6348 Practice with Individuals
- SOW 6612 Practice with Families
- SOW 6561 PT MSW Clinical Field/Seminar I

Eighth Semester (Spring)

- SOW Clinical Elective
- SOW 6433 Clinical Evaluation in Social Work Practice
- SOW 6562 PT MSW Clinical Field/Seminar II

Ninth Semester (Summer)

- SOW 6324 Practice with Groups
- SOW 6563 PT MSW Clinical Field/Seminar III

Transfer Credit

Academic credit for life experience and previous work experience shall not be given, in whole or in part, in lieu of Social Work courses required to fulfill degree requirements.

Students who have completed course work in an accredited MSW program may transfer up to 30 credit hours toward the 62 credit hours of the degree. Students must have received a grade of “B-” or higher in these courses. Courses will be evaluated on a course-by-course basis by the MSW Coordinator. Field courses will be evaluated by the Coordinator for Field Education. Students seeking to transfer to the School of Social Work from another CSWE accredited social work program are required to meet the criteria for admission and follow the application procedures. Additionally, one of the academic references must be from the MSW Program Coordinator or academic adviser in the program from which the applicant is transferring and must address the academic standing in that program. If not currently enrolled, the reference must be from the former MSW Program Coordinator or academic adviser. Syllabi are required for any social work classes being considered for transfer credit.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

The field experiences and practice electives provide substantial opportunities for students to learn independently and practically about social work practice.

APPLICATION REQUIREMENTS

In addition, to meeting the general application requirements, students must provide three letters of recommendation, résumé, a professional statement, and writing sample. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Applicants will be granted admission to the MSW program based on a majority approval from the Admissions Review Sub-committee.

In addition, to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Successful completion (with a grade of B- or higher) at least one course in each of the following tracks: Humanities (examples: fine arts, history, languages, literature, music philosophy, or religion); Physical and Biological sciences and Mathematics (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and Social Sciences (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology).
- Three current letters of recommendation that have been written within the last academic year. ***Letters from co-workers, colleagues, mentors, friends, family members, etc. will not be considered***
    - Academic: A professor from a previously attended college/university who taught you in a course. Recommendations from full-time faculty are strongly encouraged. For applicants who have been out of college for five or more years, the applicant may substitute an employment based recommendation. Letters from advisors will not be considered unless indicated that they also taught you as a student.
    - Employment: Either volunteer or paid employment immediate supervisor.
    - Third recommendation: A second academic or employment-based recommendation should be submitted for the third recommendation.
- A professional statement. Applicants must answer the following questions within 3-6 pages. Please use headings for each question.

1. Without disclosing personal information, what are the reasons and experiences that led you to choose social work as a profession?
2. What are your social work career interests?
3. What are your personal strengths that you can bring to this profession? How have these strengths been demonstrated in the past?
4. Where do you see yourself 10 years from now in the field of social work?
5. What major social issue do you think that professional social workers should be concerned with? What is the role of social work in relation to this issue?
6. As a social worker, you will be expected to practice ethically according to the National Association of Social Workers (NASW) Code of Ethics www.socialworkers.org/pubs/code/code.asp. This includes working with diverse populations and clients whose values and beliefs may differ from your own. How you will incorporate and uphold the NASW Code of Ethics into your work with diverse populations?

7. The MSW program requires students to complete a generalist (400 hours) internship and a clinical (600 hours) internship concurrent with their coursework. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Given the above considerations, please tell us how you plan to balance your internship hours with your coursework and personal obligations. Tell us about any challenges you may have and how you plan to overcome them.

- Applicants must submit an individually-authored research paper or literature review written for any class in their undergraduate studies, preferably one that is related to social work. Group projects will not be accepted. The paper should be 5-10 pages in length, contain citations, and a reference list in APA format, and will be used to evaluate the applicant's ability to write professionally. The applicant must be the sole author of this paper. Submissions of papers where the applicant is co-author will not be considered. Interviews, book reviews, movie reviews, case notes, client assessments, and case studies will not be considered. If the applicant does not have an academic paper, then he/she must write a 5-10 page paper in APA format that addresses any social issue related to social work.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Please note:*The MSW program only accepts one application from each prospective student per academic year. Applicants must choose to apply to one track and one semester only*

The Master of Social Work program can accommodate only a limited number of students; therefore there is a possibility of being denied admission even when all criteria are met.

To be accepted into and retained in the program, students are expected to demonstrate: initiative, dependability, social concern, self-awareness, appreciation for diversity in others, the ability to problem-solve, ease in relating with others, skill in writing and speaking, and professional ethics.

The School of Social Work reserves the right to refuse student entrance or dismiss a student after admission to the MSW program if, in the judgment of the faculty, the student demonstrates behavior incompatible with working in the field of social work and/or violates the National Association of Social Workers (NASW) Code of Ethics.

MSW graduates from CSWE accredited programs outside of UCF who need to complete a field placement for Florida licensure (LCSW) must apply to the MSW program as a full-time or part-time second year clinical student.

Application Deadlines

Orlando Part-Time	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Apr 1		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Shawn Lawrence PhD, LCSW
Associate Professor
Program Director
shawn.lawrence@ucf.edu
407-823-3112
HPA 1 Suite 204

Social Work MSW

Online Part-Time Advanced Standing

TRACK DESCRIPTION

The Master of Social Work (MSW) Program, Orlando Part-Time Advanced Standing Track allows students with baccalaureate degrees in Social Work from a CSWE-accredited school/program who demonstrate academic potential and professional maturity to complete the MSW degree at the main campus in four semesters of graduate study.

To be considered for advanced standing admission, the bachelor's degree must have been completed within six years of the time of initial enrollment in the master's program. The Orlando Part-Time Advanced Standing Track is offered at the main campus and may be completed in four semesters (summer, fall, spring and summer).

The MSW program strives to provide students with the education needed to become successful practitioners in the field of clinical social work. The National Association of Social Workers (NASW) Code of Ethics is enforced throughout the academic curriculum. Students who violate the NASW Code of Ethics may be subject to academic sanctions or dismissed from the program.

CURRICULUM

The 32-hour MSW program is composed of 18 credit hours of required core and advanced clinical specialization courses. In addition, students complete 6 credit hours of electives and 8 credit hours of field experience. Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

Total Credit Hours Required:

32 Credit Hours Minimum beyond the Bachelor's Degree

Educational standards for all social work programs are established by the Council on Social Work Education (CSWE), the national accreditation body for professional social work education. Curriculum direction and content is regulated by the CSWE through its accreditation standards. The MSW program at UCF is fully accredited through CSWE.

Prerequisites

The Council on Social Work Education (CSWE) requires that all applicants have an undergraduate degree from an accredited institution. The School of Social Work requires that applicants have successfully completed (with a grade of B- or higher) at least one course in each of the following tracks: **Humanities** (examples: fine arts, history, languages, literature, music, philosophy, or religion); **Physical and Biological sciences and Mathematics** (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and **Social Sciences** (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology).

Required Courses—18 Credit Hours

Clinical Specialization—18 Credit Hours

- SOW 6123 Psychosocial Pathology (3 credit hours)
- SOW 6433 Clinical Evaluation in Social Work Practice (3 credit hours)
- SOW 6324 Clinical Practice with Groups (3 credit hours)
- SOW 6348 Clinical Practice with Individuals (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6424 Theories for Evidence-Based Clinical Practice in Social Work (3 credit hours)

Electives—6 Credit Hours

Two clinical electives are required as components of the clinical specialization. They are selected in consultation with adviser and Online MSW coordinator.

- Clinical elective (3 credit hours)
- Clinical elective (3 credit hours)

Field Experience—8 Credit Hours

- Clinical Field Education and Seminars (8 credit hours)

Field instruction is an integral part of graduate social work education. It provides the student with an opportunity to test classroom knowledge as well as to develop and refine foundation and advanced practice skills. Decisions regarding field assignment are determined by the Field Director. Only agency sites approved by the School of Social Work may be used for field instruction. Clinical MSW students complete a minimum of 600 clock hours in the field. Field education includes a field seminar.

Students must complete at least 50 percent of their field hours during the agency's normal business hours. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Consequently, field placements cannot be guaranteed to students who require evening and weekend placements.

Many social work agencies have students complete background checks, including formal background checks, law enforcement finger printing, driving records, and criminal record checks. In most instances, the expense for the background check is the responsibility of the student. We urge students to seek this information prior to entering the field experience if there is sensitive information that may prevent you from being accepted at an agency. Students must also report any background issues on field application so that an appropriate placement can be made.

The UCF School of Social Work cannot guarantee a field placement or subsequent degree completion for students who do not pass background checks.

Required Sequence of Curriculum

First Semester (Summer)

- SOW 6123 Psychosocial Pathology
- SOW 6424 Theories for Evidence-Based Clinical Social Work Practice

Second Semester (Fall)

- SOW 6348 Practice with Individuals
- SOW 6612 Practice with Families
- SOW 6561 PT MSW Clinical Field/Seminar I

Third Semester (Spring)

- SOW 6324 Practice with Groups
- Clinical Elective
- SOW 6562 PT MSW Clinical Field/Seminar II

Fourth Semester (Summer)

- SOW 6433 Clinical Evaluation in Social Work Practice
- Clinical Elective
- SOW 6563 PT MSW Clinical Field/Seminar III

Transfer Credit

Academic credit for life experience and previous work experience shall not be given, in whole or in part, in lieu of Social Work courses required to fulfill degree requirements.

As per university policy, transfer credits will not be considered for the market-based, fully online part-time track.

Equipment Fee

Full-time students in the MSW program pay a $35 equipment fee each semester that they are enrolled. Part-time students pay $17.50 per semester.

Cost Per Credit Hour

For the Online Part-Time Social Work track in the Social Work MSW program, the cost per credit hour is $487.45.*

*Includes all university fees, which may be subject to change.

Tuition waivers are not accepted for the Online MSW.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Projects such as research studies, clinical assessments and treatment plans, papers and internships also contribute to the self-development of our students.

APPLICATION REQUIREMENTS

In addition to meeting the general application requirements, students must provide three letters of recommendation, résumé, a professional statement, and writing sample.

Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

Applicants will be granted admission to the MSW program based on a majority approval from the Admissions Review Sub-committee.

In addition, to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Successful completion (with a grade of B- or higher) of at least one course in each of the following tracks: Humanities (examples: fine arts, history, languages, literature, music philosophy, or religion); Physical and Biological sciences and Mathematics (examples: biology, calculus, chemistry, computer science, mathematics, physics, or statistics); and Social Sciences (examples: anthropology, economics, education, ethnic studies, gender studies, human development, international relations, political science, psychology, social work, or sociology).
- Up to date Résumé.
- Three current letters of recommendation (within the past year). Applicants must provide a letter of recommendation from each of the following (letters from co-workers, colleagues, mentors, friends, family members, etc. will not be considered):
    - Academic: A professor from a previously attended college/university **who** taught you in a course. Recommendations from full-time faculty are strongly encouraged. For applicants who have been out of college for five or more years, the applicant may substitute an employment based recommendation. Letters from advisors will not be considered unless indicated that they also taught you as a student.
    - Employment: Either volunteer or paid employment immediate supervisor.
    - Field: A field faculty/seminar instructor or a task supervisor who has directly supervised the applicant in a social work field internship setting or field seminar class..
- A professional statement. Applicants must answer the following questions within 3-6 pages. Please use headings for each question.
    1. Without disclosing personal information, what are the reasons and experiences that led you to choose social work as a profession?
    2. What are your social work career interests?
    3. What are your personal strengths that you can bring to this profession? How have these strengths been demonstrated in the past?
    4. Where do you see yourself 10 years from now in the field of social work?
    5. What major social issue do you think that professional social workers should be concerned with? What is the role of social work in relation to this issue?

6. As a social worker, you will be expected to practice ethically according to the National Association of Social Workers (NASW) Code of Ethics www.socialworkers.org/pubs/code/code.asp. This includes working with diverse populations and clients whose values and beliefs may differ from your own. How you will incorporate and uphold the NASW Code of Ethics into your work with diverse populations?
7. The MSW program requires students to complete a generalist (400 hours) internship and a clinical (600 hours) internship concurrent with their coursework. Evening (after 5 p.m.) and weekend placements are extremely limited. The School of Social Work is under no obligation to provide such placements. Given the above considerations, please tell us how you plan to balance your internship hours with your coursework and personal obligations. Tell us about any challenges you may have and how you plan to overcome them.

- Writing sample. Applicants must submit an individually-authored research paper or literature review written for any class in their undergraduate studies, preferably one that is related to social work. Group papers will not be accepted. The paper should be 5-10 pages in length, contain citations, and a reference list in APA format, and will be used to evaluate the applicant's ability to write professionally. The applicant must be the sole author of this paper. Submissions of papers where the applicant is co-author will not be considered. Interviews, book reviews, movie reviews, case notes, client assessments, and case studies will not be considered. If the applicant does not have an academic paper, then he/she must write a 5-10 page paper in APA format that addresses any social issue related to social work.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Please note:*The MSW program only accepts one application from each prospective student per academic year. Applicants must choose to apply to one track and one semester only*

The Master of Social Work program can accommodate only a limited number of students; therefore there is a possibility of being denied admission even when all criteria are met.

Students are admitted and can begin course work in summer semesters only. To be accepted into and retained in the program, students are expected to demonstrate initiative, dependability, social concern, self-awareness, appreciation for diversity in others, problem solving ability, ease in relating with others, skill in writing and speaking, and professional ethics.

The School of Social Work reserves the right to refuse student entrance or dismiss a student after admission to the MSW program if, in the judgment of the faculty, the student demonstrates behaviors incongruent to working in the field of social work and/or violates the National Association of Social Workers (NASW) Code of Ethics.

Advanced Standing

To be considered for advanced standing admission, applicants must have a baccalaureate degree in Social Work from a CSWE-accredited program and demonstrate the academic potential and professional maturity to meet the demands of the program with a 3.3 GPA in their last 60 credits. Previous baccalaureate course work that received at least a "B-" will be reviewed to ensure content equivalency. In advanced standing admission, a maximum of 30 foundation level credits may be waived based on the content equivalency to meet foundation year MSW requirements, which consist of courses in human behavior and the social environment, policy, research, social work practice, and social work field placement.

To be considered for advanced standing admission, the bachelor's degree must have been completed within six years of the time of initial enrollment in the master's program.

Application Deadlines

Online Part-Time Advanced Standing	Fall Priority	Fall	Spring	Summer
Domestic Applicants		May 1		
International Applicants				
International Transfer Applicants				

CONTACT INFO

Shawn Lawrence PhD, LCSW
Associate Professor
Program Director
shawn.lawrence@ucf.edu
407-823-3112
HPA 1 Suite 204

Sociology MA, Applied

PROGRAM DESCRIPTION

The Department of Sociology offers a graduate program leading to a Master of Arts degree in Applied Sociology. Beyond a curriculum appropriate for general applied sociology, the program includes a graduate track in Domestic Violence as well as instruction and opportunities pertaining to the study of deviant behavior and crime; social inequalities; and health, families and communities.

A primary focus of the program is the variety of social problems in society with special attention given to the Central Florida area and the different community policies that have evolved to confront them. Toward this objective, the program promotes the application of sociological and social psychological knowledge, principles, and research skills in a variety of organizational, community, and institutional settings. Examples of competencies in applied sociology include effective skills in program design and evaluation research; planning, feasibility and needs assessment studies; data management, analysis and presentation; and the application of general systems and social conflict theories to organizational problems, community development and planned change.

CURRICULUM

Degree-seeking students in the Applied Sociology program may choose either the thesis or a nonthesis course of study. Both options require 30 hours of course work, at least half of which must be at the 6000 level or above. The thesis option is designed primarily for students who plan to enter doctoral programs and is highly recommended for students interested in community college teaching. The nonthesis option is more appropriate for students entering or continuing professional careers following the MA degree.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

The Master of Arts degree is conferred when students have fulfilled the requirements of either the thesis or nonthesis option. Students must earn a grade of "B" (3.0) or better in the program's core courses. Courses may be retaken to achieve a better grade; however, students must maintain a minimum GPA of 3.0 in their program of study.

By the end of their first nine hours of course work in the program, students should select a permanent faculty adviser and determine their preliminary program of study, either in the thesis or nonthesis track. Students should maintain close contact with their faculty adviser in order to develop a viable program of study and avoid graduation delays.

Required Courses—12 Credit Hours

Students receive an independent learning experience in the core by completing a research study in each of the 12 hours of required courses.

- SYA 5625 Proseminar (3 credit hours): Should be taken as early as possible in the program.
- SYA 6126 Social Theory (3 credit hours)
- SYA 6305 Social Research (3 credit hours)
- SYA 6455 Research Analysis (3 credit hours)

Elective Courses—12 Credit Hours

Students will select a minimum of 12 credit hours of unrestricted electives in consultation with their faculty adviser. No more than 3 hours may be taken in UCF graduate programs outside the department. The department's graduate director must approve all courses taken outside the department prior to enrollment.

A listing and description of courses offered by the Department of Sociology is found in the "Courses" section of the Graduate Catalog Menu.

Under special circumstances, students may enroll in a graduate-level Directed Independent Study course or a Directed Independent Research course to fulfill their nonrestricted elective course requirements. These courses, like most graduate seminars, require written research reports. Enrollment in these courses requires written approval from the student's adviser. No more than 6 hours of graduate-level courses in Directed Independent Study or Directed Independent Research may be included in a student's program of study.

Nonthesis students may substitute up to 6 hours of their elective course work by completing a graduate practicum/internship (SYA 6946). The practicum must be approved by the student's permanent adviser and the department's graduate program director.

Thesis Option—6 Credit Hours

The thesis option requires a minimum of 6 hours of thesis credit and a successful defense of a thesis. Students may enroll in thesis hours after they have successfully completed the four required courses and their thesis committee has been approved by the department, college, and Graduate Studies.

The students' permanent faculty adviser will chair their committee, which also will include two additional graduate sociology faculty members in the department. The additional members of the thesis committee are selected in consultation with the student's permanent faculty adviser.

When a topic has been selected, students, in conjunction with their permanent adviser, will develop a thesis proposal. Copies of the proposal will be routed to members of their thesis committee and a proposal hearing scheduled. All students must pass a proposal hearing as well as a final oral defense of their thesis. Students who elect to write a thesis should become familiar with the university's requirements and deadlines for organizing and submitting the thesis.

- Thesis (6 credit hours)

Nonthesis Option—6 Credit Hours

The nonthesis option requires that students complete SYA 6657 Program Design and Evaluation and 3 additional hours of SYA 6918 Directed Research, SYA 6946 Internship or Practicum, SYA 6909 Research Report, or SYA 6908 Directed Independent Studies. Both the Program Design and Evaluation course (SYA 6657) and "directed research or internship" courses require community-oriented research projects to develop research skills in sociology.

- SYA 6657 Program Design and Evaluation (3 credit hours)
- SYA 6918 Directed Research, SYA 6946 Internship or Practicum, SYA 6909 Research Report, or SYA 6908 Directed Independent Studies (3 credit hours)

Applied Project

Nonthesis students must complete an applied project. The nature and implementation of each project will be determined by the student and their adviser.

Before students may begin the applied project, they must earn a grade of "B" (3.0) or better in each of the core courses. Students will work directly with a faculty adviser to develop a project and the adviser will supervise the project.

The grading system for the project is Pass/No Pass. Students who receive a grade of Pass will be allowed to graduate assuming all other requirements are met.

Equipment Fee

Full-time students in the Applied Sociology MA program pay a $39 equipment fee each semester that they are enrolled. Part-time students pay $19.50 per semester.

INDEPENDENT LEARNING

As with all graduate programs, independent learning is an important component in the Applied Sociology master's program.Students will demonstrate independent learning through research seminars and the thesis (thesis students only).The nonthesis option requires the course, SYA 6657, Program Design and Evaluation, which requires a research study as the independent learning experience. Also, research studies are included in each of the 15 hours of required courses to provide independent learning.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, and a personal statement identifying areas of research interest and identifying and describing the applicant's academic and professional experience and goals.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE scores taken within the last five years.
- Three letters of recommendation, including at least two from academic sources familiar with the applicant's academic abilities.
- A personal statement of 250-500 words identifying areas of research interest, faculty with whom they would like to work, and describing the applicant's academic and professional experience and goals.

The applicant's records will be reviewed on an individual basis for academic deficiencies and evaluated to assess their potential for success in the program. Supplemental course work may be recommended.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program to the applicant's career/academic goals, and the applicant's potential for completing the degree. Note also that there is no automatic connection between acceptance as a non-degree-seeking student and acceptance into this degree-granting program. Consult the graduate program director whenever questions arise.

Application Deadlines

Sociology MA, Applied	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Jul 1	Nov 1	Apr 1
International Applicants	Jan 1	Jan 1	Jul 1	Nov 1
International Transfer Applicants	Jan 1	Mar 1	Sep 1	Dec 1

CONTACT INFO

Jason Ford PhD
Associate Professor
Program Director
jason.ford@ucf.edu
407-823-2769
PH 403D

Sociology MA, Applied

Domestic Violence

TRACK DESCRIPTION

The Department of Sociology offers a graduate program leading to a Master of Arts degree in Applied Sociology. Beyond a curriculum appropriate for general applied sociology, the program includes a graduate track in Domestic Violence as well as instruction and opportunities pertaining to the study of deviant behavior and crime; social inequalities; and health, families and communities.

A primary focus of the program is the variety of social problems in society with special attention given to the central Florida area and the different community policies that have evolved to confront them. Toward this objective, the program promotes the application of sociological and social psychological knowledge, principles, and research skills in a variety of organizational, community, and institutional settings. Examples of competencies in applied sociology include effective skills in program design and evaluation research; planning, feasibility and needs assessment studies; data management, analysis and presentation; and the application of general systems and social conflict theories to organizational problems, community development and planned change.

CURRICULUM

Degree-seeking students in the Applied Sociology program may choose either the thesis or a nonthesis course of study. Both options require 30 hours of course work, at least half of which must be at the 6000 level or above.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

The thesis option is designed primarily for students who plan to enter doctoral programs and is highly recommended for students interested in community college teaching. The nonthesis option is more appropriate for students entering or continuing professional careers following the MA degree. The Master of Arts degree is conferred when students have fulfilled the requirements of either the thesis or nonthesis option. Students must earn a grade of "B" (3.0) or better in the program's core courses. Courses may be retaken to achieve a better grade; however, students must maintain a minimum GPA of 3.0 in their program of study.

By the end of their first nine hours of course work in the program, students should select a permanent faculty adviser and determine their preliminary program of study, either in the thesis or nonthesis track. Students should maintain close contact with their faculty adviser in order to develop a viable program of study and avoid graduation delays.

Required Courses—18 Credit Hours

Core—12 Credit Hours

Please note that students in the nonthesis option are required to complete a research study in each of the 12 hours of required courses to provide an independent learning experience .

- SYA 5625 Proseminar (3 credit hours): Should be taken as early as possible in your program.
- SYA 6126 Social Theory (3 credit hours)
- SYA 6305 Social Research (3 credit hours)

- SYA 6455 Research Analysis (3 credit hours)

Specialization—6 Credit Hours

- SYP 5566 Seminar on Domestic Violence: Theory, Research and Social Policy (3 credit hours)
- SYP 6563 Reactions to Domestic Violence (3 credit hours)

Elective Courses—6 Credit Hours

Choose two of the following restricted electives.

- SYA 6128 Theoretical Criminology (3 credit hours)
- SYA 6657 Program Design and Evaluation* (3 credit hours)
- SYP 6561 Child Abuse in Society (3 credit hours)
- SYP 6565 Elder Abuse and Neglect (3 credit hours)
- SYP 6515 Deviant Behavior Issues (3 credit hours)
- SYP 6522 Sociological Perspectives on Victims (3 credit hours)
- SYP 6546 Crime, Law, Inequality (3 credit hours)
- SYD 6809 Seminar on Gender Issues (3 credit hours)

* SYA 6657 cannot be taken for elective credit by nonthesis students because it is a required course for this option.

Thesis Option—6 Credit Hours

The thesis option requires a minimum of 6 hours of thesis credit and a successful defense of a thesis. Students may enroll in thesis hours after they have successfully completed the four required courses and their thesis committee has been approved by the department and college.

The student's permanent faculty adviser will chair their committee, which also will include two additional graduate sociology faculty members in the department. The additional members of the thesis committee are selected in consultation with the student’s permanent faculty adviser.

When a topic has been selected, students, in conjunction with their permanent adviser, will develop a thesis proposal. Copies of the proposal will be routed to members of their thesis committee and a proposal hearing scheduled. All students must pass a proposal hearing as well as a final oral defense of their thesis. Students who elect to write a thesis should become familiar with the university’s requirements and deadlines for organizing and submitting the thesis.

- Thesis (6 credit hours)

Nonthesis Option—6 Credit Hours

The nonthesis option requires that students complete SYA 6657 Program Design and Evaluation and 3 additional hours of elective course work in their area of specialization. The Program Design and Evaluation course (SYA 6657) requires community-oriented research projects to develop research skills in sociology.

- SYA 6657 Program Design and Evaluation
- Directed Study for Applied Project (3 credit hours)

Applied Project

Nonthesis students must complete an applied project. The nature and implementation of each project will be determined by the student and her/his adviser.

Before students may begin the applied project, they must earn a grade of "B" (3.0) or better in each of the five core courses.

The grading system for the project is Pass/No Pass. Students who receive a grade of Pass will be allowed to graduate assuming all other requirements are met.

Equipment Fee

Full-time students in the Applied Sociology MA program pay a $39 equipment fee each semester that they are enrolled. Part-time students pay $19.50 per semester.

INDEPENDENT LEARNING

As with all graduate programs, independent learning is an important component in the Applied Sociology master's program. Students will demonstrate independent learning through research seminars and the thesis (thesis students only). The nonthesis option requires a research study in the SYA 6657 course on Program Design and Evaluation. In addition, research studies are required in each of the 15 hours of required courses to provide independent learning.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GRE score taken within the last five years, three letters of recommendation, and a personal statement identifying areas of research interest and identifying and describing the applicant's academic and professional experience and goals.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE scores taken within the last five years.
- Three letters of recommendation, including at least two from academic sources familiar with the applicant's academic abilities.
- A personal statement of 250-500 words identifying areas of research interest, faculty with whom they would like to work, and describing the applicant's academic and professional experiences and goals.

The applicant's records will be reviewed on an individual basis for academic deficiencies and evaluated to assess their potential for success in the program. Supplemental course work may be recommended.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program to the applicant's career/academic goals, and the applicant's potential for completing the degree. Note also that there is no automatic connection between acceptance as a non-degree-seeking student and acceptance into this degree-granting program. Consult the graduate program director whenever questions arise.

Application Deadlines

Domestic Violence	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 1	Jul 1	Nov 1	
International Applicants	Jan 1	Jan 1	Jul 1	Nov 1
International Transfer Applicants	Jan 1	Mar 1	Sep 1	Dec 1

CONTACT INFO

Jason Ford PhD
Associate Professor
Program Director
jason.ford@ucf.edu
407-823-2769
PH 403D

Spanish MA

PROGRAM DESCRIPTION

The master's program in Spanish is intended for those who wish to continue their study of the literature, linguistics and culture of the Spanish-speaking world at the graduate level.

The Spanish program focuses on the literature, linguistics, culture and civilization of Spain, Latin America, and Hispanics in the United States. Students in the program learn research methods, enhance language skills, and acquire a scholarly view of culture, literature, and linguistics of the Spanish-speaking world.

CURRICULUM

The master’s degree program in Spanish has both thesis and nonthesis options. A total of 36 credit hours of course work for the nonthesis option or 30 credit hours of course work and 6 credit hours of thesis (3 credit hours minimum) are required of students seeking the master’s degree in Spanish. After 9 credit hours in the program, students are expected to select either Literature or Spanish Linguistics as their specialization.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor’s Degree

A minimum grade of “B” must be earned in each required course. Students will be allowed a maximum total of 6 semester hours of “C” grades in elective courses. Students are allowed to transfer up to 6 credit hours of corresponding graduate courses with the grade of “A” or “B” from an accredited university. University policies and procedures will be followed for all degree requirements. Courses are to be chosen from the following categories in accordance with the number of hours designated in each, based on the student's specialization.

Literature Specialization

- Research Methods—3 credit hours
- Spanish Linguistics—3 credit hours
- Culture and Civilization—6 credit hours
- Literature—12 credit hours
- Electives—6 credit hours
- Nonthesis Option Electives, 6 credit hours OR Thesis Option, 6 credit hours

Linguistics Specialization

- Research Methods—3 credit hours
- Spanish Linguistics—12 credit hours
- Culture and Civilization—6 credit hours
- Literature—3 credit hours
- Electives—6 credit hours
- Nonthesis Option Electives, 6 credit hours OR Thesis Option, 6 credit hours

Students must choose electives from the additional, available courses listed below in conjunction with their faculty adviser. The aim of the selections should be to complement the acquisition of knowledge in the particular area of Hispanic studies chosen. Courses must be selected so that at least one-half of required courses are taken at the 6000 level.

All students are required to take SPW 6919 Advanced Spanish Graduate Research, which results in a research paper that organizes and summarizes knowledge in a chosen area of study. All classes require a research paper that allows students to engage in independent learning.

All courses are taught face to face and are entirely in Spanish.

Required Courses—24 Credit Hours

Spanish Linguistics—3 Credit Hours for Literature Specialization or 12 Credit Hours for Linguistics Specialization

- SPN 5705 Introduction to Spanish Linguistics (3 credit hours)
- SPN 5825 Spanish Dialectology (3 credit hours)
- SPN 5845 History of the Spanish Language (3 credit hours)
- SPN 6805 Spanish Morphosyntax (3 credit hours)

Culture and Civilization—6 Credit Hours for Literature Specialization or Linguistics Specialization

- SPN 5502 Hispanic Culture of the United States (3 credit hours)
- SPN 5505 Spanish Peninsular Culture and Civilization (3 credit hours)
- SPN 5506 Spanish American Culture and Civilization (3 credit hours)

Literature—12 Credit Hours for Literature Specialization or 3 Credit Hours for Linguistics Specialization

- SPW 5741 Contemporary Spanish American Southern Cone Literature (3 credit hours)
- SPW 6825 Seminar Series* (May be repeated for credit with different topics) (3 credit hours)
- SPW 6405 Medieval Spanish Literature (3 credit hours)
- SPW 6217 Spanish American Prose I (3 credit hours)
- SPW 6218 Spanish American Prose II (3 credit hours)
- SPW 6269 Nineteenth Century Spanish Novel (3 credit hours)
- SPW 6306 Spanish American Drama (3 credit hours)
- SPW 6315 Golden Age Drama (3 credit hours)
- SPW 6356 Spanish American Poetry (3 credit hours)
- SPW 6485 Contemporary Peninsular Literature (3 credit hours)
- SPW 6725 The Generation of 1898 (3 credit hours)
- SPW 6358 Modernismo (3 credit hours)

- SPW 6216 Spanish Golden Age Prose and Poetry (3 credit hours)
- SPW 6775 Spanish Caribbean Prose (3 credit hours)

* Examples of Seminar Series Topics: Don Quixote, Spanish American Literature Written by Women, Gabriel García Márquez, Memory and identity in Modern Spanish Literature, Semantics and Pragmatics, Special Study in Spanish Linguistics

Research Methods—3 Credit Hours for Literature Specialization or Linguistics Specialization

- SPW 6919 Advanced Spanish Graduate Research (3 credit hours)

Elective Courses—6 Credit Hours for Literature Specialization or Linguistics Specialization

All students in both the thesis and nonthesis options are required to take at least 6 credit hours of electives. These must be approved by your adviser.

- Electives (6 credit hours)

Thesis Option—6 Credit Hours for Literature Specialization or Linguistics Specialization

- SPW 6971 Thesis Research and Thesis (6 credit hours)

Nonthesis Option—6 Credit Hours for Literature Specialization or Linguistics Specialization

Students in the nonthesis option must take an additional 6 credit hours of electives as approved by your adviser.

- Electives (6 credit hours)

Comprehensive Examination and Reading List for Literature Specialization or Linguistics Specialization

Students must pass a comprehensive examination in order to qualify for the master's degree in Spanish. This examination is based on knowledge of the civilization and literature of Spain and Hispanic America and/or on concepts of linguistic theory and analysis.

Since this examination will be given toward the end of the course work (only during fall and spring semesters), it is expected that the student will have developed an ability to analyze literature, culture, and linguistics at an advanced level. It is also expected that the responses, both written and oral, will show an excellent command of the Spanish language.

If a student does not successfully pass both the oral and written comprehensive examinations, he or she may be able to retake the exams in the following semester (fall or spring). Thereafter, if the student does not pass the examinations the second time, he/she will be removed from the program.

The Graduate Committee has developed a reading list made up of major Peninsular, Latin American, and Linguistics works with which the student must be familiar. The comprehensive examination will be based on the reading list and the courses that the student has taken. An oral examination will follow the written examination. This examination will allow the student to expand more readily on particular points of culture, literature, and linguistics, and to show ability in the use of the spoken language.

INDEPENDENT LEARNING

All students are required to take SPW 6919 Advanced Spanish Graduate Research, which results in a research paper that organizes and summarizes knowledge in a chosen area of study. All classes require a research paper that allows students to engage in independent learning. The program also offers a thesis option.

APPLICATION REQUIREMENTS

In addition to the general admission requirements, applicants must hold a bachelor's degree in Spanish or a related field, must provide three letters of recommendation and a writing sample written in Spanish, and must complete an interview with the program director or designee.

In addition to the general UCF graduate application requirements, applicants to this program must provide following:

- One official transcript (in a sealed envelope) from each college/university attended.
- A bachelor's degree in Spanish or a related field.
- Three letters of recommendation.
- Writing sample written in Spanish **on a topic of literature or linguistics of the Spanish-Speaking world, including Hispanics in the USA**
- Interview with the Spanish MA Program Director.
- Approval by the Graduate Committee of the Department of Modern Languages and Literature.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application information is also available at mll.cah.ucf.edu/graduate/spanish.php.

Prospective students are expected to have read widely in Hispanic literature/linguistics and to be competent in understanding, reading, and writing Spanish. They should also be familiar with the vocabularies of literary criticism and grammar.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Spanish MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Lisa Nalbone PhD
Associate Professor
Program Director
Lisa.Nalbone@ucf.edu
407-823-2472
CNH 511F

Sport and Exercise Science MS

PROGRAM DESCRIPTION

The Master of Science in Sport and Exercise Science provides an in-depth study of applied human physiology and how it relates to athletic performance and health and wellness across the lifespan.

Additional areas of study focus on sport nutrition, environmental physiology and exercise biochemistry.

CURRICULUM

The Master of Science in Sport and Exercise Science offers thesis and nonthesis options for students. Both options require a minimum of 36 credit hours, with at least 18 credit hours of course work at the 6000 level. Students selecting the thesis option must receive a commitment from a faculty adviser for approval to do the thesis option in the program.

Students in the nonthesis option are required to take an independent learning experience (PET 6910 Problem Analysis) that involves a detailed literature review specific to a subject area of the student's interest. This work is done with the supervision of graduate faculty. Another option available to nonthesis students is participation in a practicum (PET 6946) that will serve as their culminating graduate experience.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor’s Degree

Required Courses—15 Credit Hours

- EDF 6481 Fundamentals of Graduate Research in Education (3 credit hours)
- PET 5355 Exercise and Health (3 credit hours)
- PET 6376 Sport Nutrition (3 credit hours)
- PET 6389 Physiological Aspects of Sport and Training (3 credit hours)
- PET 6515 Assessment and Evaluation in Sport and Exercise Science (3 credit hours)

Elective Courses—15-18 Credit Hours

Students that select the thesis option must take 15 credit hours in electives. Students that select the nonthesis option must take 18 credit hours in electives. All electives are selected in conjunction with the student's graduate adviser or the graduate coordinator. Students can choose from the following courses.

- PET 6096 Youth Physical and Athletic Development (3 credit hours)
- EDF 6401 Statistics for Educational Data (3 credit hours)
- PET 6357C Environmental Perturbation and Human Performance (3 credit hours)
- PET 6366 Exercise, Nutrition and Weight Control (3 credit hours)
- PET 6381 Physiology of Neuromuscular Mechanisms (3 credit hours)
- PET 6388 Cardiovascular Physiology (3 credit hours)
- PET 6521 Exercise Physiology Instrumentation (3 credit hours)
- PET 6690 Exercise Prescription for Special Populations (3 credit hours)
- PET 6363 Dietary and Nutritional Supplementation for Athletic Performance (3 credit hours)
- PET 6395 Program Design in Strength and Conditioning (3 credit hours)
- PET 7387 Exercise Endocrinology (3 credit hours)
- PET 7535 Research and Experimental Design in Exercise Physiology (3 credit hours)

Thesis Option—6 Credit Hours

Students selecting the thesis option will take EDF 6401 Statistics for Educational Data and enroll in thesis hours.

- PET 6971 Thesis (6 credit hours)

Nonthesis Option—3-6 Credit Hours

Students select one of the following courses.

- PET 6910 Problem Analysis (3 credit hours)
- PET 6946 Practicum, Clinical Practice (3-6 credit hours)

INDEPENDENT LEARNING

All students are required to complete a research report or thesis after the completion of their coursework.

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Résumé.

Application Deadlines

Sport and Exercise Science MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Jeffrey Stout PhD
Associate Professor
Program Director
jeffrey.stout@ucf.edu
407-823-0211
ED 320K

Sport Business Management MSBM

PROGRAM DESCRIPTION

This program is the only sport business management program emphasizing diversity, moral, ethical, and social issues in sports, as well as focusing on sports leadership while giving the students a rigorous business education. The DeVos Sport Business Management Program is ranked as one of the top five programs in America by the Wall Street Journal, New York Times, and ESPN the Magazine. In 2015, the Program was named the number two program in the world by SportsBusiness International.Students are required to perform 42 hours of service per semester for a Central Florida organization that works with underserved youth. Students will also spend a minimum of two weeks helping to rebuild homes in post-Katrina New Orleans. A major emphasis of the DeVos Program is to have our students leave understanding the power of sport to build communities in addition to learning strong business skills for a successful career in sports management.

Students in the DeVos Sport Business Management master's program gain hands-on experience in the business of sports management, work in teams with fellow students on sports business projects from conception through implementation, and develop a network in the sports industry.

CURRICULUM

The DeVos Sport Business Management MSBM program requires a minimum of 45 credit hours beyond the bachelor's degree. The program includes 18 credit hours of professional core courses, 24 credit hours of sport business management core courses, and 3 credit hours of an internship. This is a nonthesis program in which the internship serves as a capstone experience.

Total Credit Hours Required:

45 Credit Hours Minimum beyond the Bachelor's Degree

The two-year full-time curriculum includes the College of Business Administration's foundation core; selected required courses from the college's professional core for solid business skills and knowledge; and required sport business management courses that will create a unique knowledge base for our students.

Required Courses—45 Credit Hours

Professional Core—18 Credit Hours

The professional core consists of 18 credit hours of advanced course work.

- MAN 6245 Organizational Behavior and Development (3 credit hours)
- MAR 6466 Strategic Supply Chain Management (3 credit hours)
- ACG 6425 Managerial Accounting Analysis (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)
- ECO 6416 Applied Business Research Tools (3 credit hours)
- ECO 6115 Economic Analysis of the Firm (3 credit hours)

Sport Business Management Core—24 Credit Hours

The sport business management core consists of 24 credit hours of course work in the related areas of sport.

- SPB 6506 Moral and Ethical Issues in Sport (1.5 credit hours)
- SPB 6606 Diversity and Social Issues in Sport Business Management (1.5 credit hours)
- SPB 6725 Leadership in Sport (1.5 credit hours)
- SPB 6716C Strategic Sport Marketing (3 credit hours)
- SPB 6406 Sport Law (3 credit hours)
- SPB 6806 Business of Sport Media (3 credit hours)
- SPB 6735 The Global Environment of Sport (3 credit hours)
- SPB 6715C Professional Selling in Sport (1.5 credit hours)
- SPM 6108 Facilities and Event Management (1.5 credit hours)
- SPB 6608 The Sport Industries in the United States: Challenges and Opportunities (1.5 credit hours)
- SPB 6706 Sport Analytics (3 credit hours)

Internship—3 Credit Hours

An internship equivalent to three credit hours with a designated sport organization is required. It would normally be a full-time, 15-week internship taken after the completion of all academic courses. The internship is an independent learning activity that takes place in authentic settings (all settings are professional sports settings, such as the NBA, NFL, etc.) in which students must apply, reflect upon, and refine knowledge and skills acquired in the program.

Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

MBA Option—51 Total Credit Hours Required

If accepted into the MBA program, students must complete MAN 6721 Applied Strategy and Business Policy (3 credit hours) and MAR 6816 Strategic Marketing Management (3 credit hours). Please note that a student admitted to the MSBM program with provisional admission to the MBA program will take 13 credit hours of coursework in the first semester, 12 of which are courses that count toward both the MSBM and MBA degrees. The student must earn a grade of B (3.0) or higher in all MBA courses taken, otherwise the student's provisional admission to the MBA program will be revoked.

INDEPENDENT LEARNING

All students are required to participate in an internship in professional sport settings in which students must apply, reflect upon, and refine knowledge and skills acquired throughout the curriculum.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GMAT score taken within the last 5 years, three letters of recommendation, an essay, and a résumé; a score of at least 233 (computer-based test or paper-based equivalent) on the Test of English as a Foreign Language (TOEFL) is required for applicants from countries where English is not the official language or applicants with degrees from a non-U.S. accredited institution; applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GMAT score taken within the last five years.
- Three professional letters of recommendation.
- Essay (for details, see http://business.ucf.edu/devos/academic-admission-information/admissions-requirements/)
- Résumé.
- All finalists will be required to have an in-person interview; the only exception shall be for prospective international students who will be permitted to have a Skype interview.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is

not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

We admit students based on their total package of academic success, professional and community service experience, commitment to teamwork, and other factors that show the admissions committee if the applicant is a good fit for the DeVos program.

Application Deadlines

Sport Business Management MSBM	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Nov 15	Jan 15		
International Applicants	Nov 15	Jan 15		
International Transfer Applicants	Nov 15	Jan 15		

CONTACT INFO

Richard Lapchick PhD
Professor
Chair
sportsman@bus.ucf.edu
407-823-4887
Business Administration II 205D

Statistical Computing MS

PROGRAM DESCRIPTION

The Master of Science in Statistical Computing provides a sound foundation in statistical theory, statistical methods, numerical methods in statistical computing, and the application of computer methodology to statistical analyses.

The program in Statistical Computing provides a sound foundation in statistical theory, statistical methods, numerical methods in statistical computing, and the application of computer methodology to statistical analyses. The MS is particularly suited for individuals who have completed an undergraduate program in mathematics, statistics, or computer science, but is also available to those from other disciplines who wish to develop an expertise in data analysis and statistical computing.

CURRICULUM

The Statistical Computing MS program requires a minimum of 36 credit hours beyond the bachelor's degree. The degree in Statistical Computing includes 21 credit hours of required courses, 15 credit hours of restricted electives, and passing a comprehensive examination.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—21 Credit Hours

- STA 5205 Experimental Design (3 credit hours)
- STA 6106 Statistical Computing I (3 credit hours)
- STA 6236 Regression Analysis (3 credit hours)
- STA 6326 Theoretical Statistics I (3 credit hours)
- STA 6327 Theoretical Statistics II (3 credit hours)
- STA 6329 Statistical Applications of Matrix Algebra (3 credit hours)

Select one of the following courses.

- STA 6246 Linear Models (3 credit hours)
- STA 6707 Multivariate Statistical Methods (3 credit hours)

Note: STA 6106 provides the independent learning experience for the program. It requires a research project that results in a written report or oral presentation.

Elective Courses—15 Credit Hours

Elective statistics courses will be selected by the student in consultation with the adviser. Certain graduate courses in computer science, mathematics, and engineering may also be selected if approved by the graduate program director.

A listing and description of graduate courses offered by the Department of Statistics is found in the "Courses" section of the Catalog Menu button at the top of the page.

Comprehensive Examination

All students must take a comprehensive written examination covering the courses STA 5205, STA 6236, STA 6326, and STA 6327. For full-time students, this examination normally will be taken just prior to the start of the second year of graduate work. Students are allowed two attempts to pass the exam. Failure to pass after the second attempt will result in removal from the program.

INDEPENDENT LEARNING

STA 6106 provides the independent learning experience for the program. It requires a research project that results in a written report or oral presentation.

APPLICATION REQUIREMENTS

In addition to the general UCF graduate admission requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.

- Official, competitive GRE or GMAT score taken within the last five years.
- Résumé.

Applicants not qualified for regular graduate status may be initially admitted to the university in non-degree-seeking status and later admitted to regular status once all deficiencies have been eliminated, although only nine hours of graduate course work taken as a non-degree-seeking student can count toward a graduate degree.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Statistical Computing MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Liqiang Ni PhD
Associate Professor
Program Director
lni@ucf.edu
407-823-6664
TC2 210A

Statistical Computing MS

Data Mining

TRACK DESCRIPTION

The Master of Science in Statistical Computing, Data Mining track focuses on data mining and its application to business, social, and health problems.

The Data Mining track in the Statistical Computing MS program focuses on data mining and its application to business, social, and health problems.

The program is particularly suited for individuals who have completed an undergraduate program in mathematics, statistics, economics, business, or other related fields, and wish to pursue a career in data mining. Data miners are statisticians who analyze massive data sets to uncover trends and associations, and make theoretically sound decisions on, for example, business, social, and health subjects. Data miners have one of the most coveted jobs, as the demand for them far exceeds the existing number of qualified persons in the area. Currently, the work force in the data mining industry consists mainly of individuals trained with post college education. To date, very few university degree programs exist for training students for such a large and growing industry in the United States.

CURRICULUM

The Data Mining track in the Statistical Computing MS program is composed of 24 credit hours of required courses and 12 credit hours of restricted electives. Students must also pass a comprehensive written examination.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—24 Credit Hours

- STA 5104 Advanced Computer Processing of Statistical Data (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)
- STA 6238 Logistic Regression (3 credit hours)
- STA 6326 Theoretical Statistics I (3 credit hours)
- STA 6327 Theoretical Statistics II (3 credit hours)
- STA 6236 Regression Analysis (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 6704 Data Mining Methodology II (3 credit hours)

Note: STA 5703 and 6704 both require research projects that fulfill the independent learning requirement for the program.

Elective Courses—12 Credit Hours

Select electives from the following courses.No more than one COP course can be selected.

- COP 4710 Database Systems (3 credit hours)
- COP 5711 Parallel and Distributed Database Systems (3 credit hours)
- COP 6730 Transaction Processing (3 credit hours)
- COP 6731 Advanced Database Systems (3 credit hours)
- STA 5205 Experimental Design (3 credit hours)
- STA 5505 Categorical Data Methods (3 credit hours)
- STA 5825 Stochastic Processes and Applied Probability Theory (3 credit hours)
- STA 6106 Statistical Computing I (3 credit hours)
- STA 6226 Sampling Theory and Applications (3 credit hours)
- STA 6237 Nonlinear Regression (3 credit hours)
- STA 6507 Nonparametric Statistics (3 credit hours)
- STA 6707 Multivariate Statistical Methods (3 credit hours)
- STA 6857 Applied Times Series Analysis (3 credit hours)
- STA 6705 Data Mining Methodology III (3 credit hours)
- FIN 6406 Strategic Financial Management (3 credit hours)

Comprehensive Examination

All students must take a comprehensive written examination covering the five courses STA 6326, STA 6327, STA 5103, STA 6714 and STA 6238. For full-time students, this examination will normally be taken just prior to the start of the second year of their graduate work. Students are allowed two attempts to pass the exam. Failure to pass after the second attempt will result in dismissal from the program.

INDEPENDENT LEARNING

STA 5703 and 6704 both require research projects that fulfill the independent learning requirement for the program. Both courses require students to build models for target variables of projects with very large sets of data, write a report, and then give an oral presentation on their independent learning experiences.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate admission requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE or GMAT score taken within the last five years.
- Résumé.

Applicants not qualified for regular graduate status may be initially admitted to the university in non-degree-seeking status and later admitted to regular status once all deficiencies have been eliminated, although only nine hours of graduate course work taken as a non-degree-seeking student can count toward a graduate degree.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree.

Application Deadlines

Data Mining	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Mar 1		

CONTACT INFO

Liqiang Ni PhD
Associate Professor
Program Director
lni@ucf.edu
407-823-6664
TC2 210A

Taxation MST

PROGRAM DESCRIPTION

NOTE: This program has been suspended and is not accepting applications effective with the Fall 2014 term.

The Master of Science in Taxation program is designed to prepare individuals for careers as tax professionals and tax consultants in public practice, government, and industry. The MST degree, along with appropriate prerequisite work from an undergraduate degree in accounting, satisfies the education requirements to become a licensed CPA in the state of Florida. Faculty members in the Kenneth G. Dixon School of Accounting emphasize independent learning in various ways in all courses in the MST program. Cases and research projects that involve independent work outside the classroom are incorporated into all course work. The cases and projects are both individual and team prepared. Students are asked to do research that requires they utilize library, internet and resources other than the material provided by the professor. The results of independent research activity are presented in a written report, a case analysis, or an oral presentation. Students work to develop and enhance skills and competencies that will support them professionally throughout their careers. The approaches used in our courses encourage life-long learning.

CURRICULUM

The Master of Science in Taxation (MST) degree is awarded upon completion of a minimum 30 credit hours, and a final written exit exam. In the total program of study a minimum of 21 credit hours of the course work must be completed in accounting/tax courses. Students, with the assistance and approval of the program adviser, may select other courses that reflect their interests and career objectives.

Total Credit Hours Required:

30 Credit Hours Minimum beyond the Bachelor's Degree

Faculty members in the Kenneth G. Dixon School of Accounting emphasize independent learning in various ways in all courses in the MST program. Cases and research projects that involve independent work outside the classroom are incorporated into all course work. The cases and projects are both individual and team prepared. Students are asked to do research that requires they utilize library, internet and resources other than the material provided by the professor. The results of independent research activity are presented in either a written report or case analysis or oral presentation. Students work to develop and enhance skills and competencies that will support them professionally throughout their careers. The approaches used in our courses encourage students toward life-long learning.

Foundation Prerequisite Courses

The courses included in the business and accounting foundation core are listed below. An applicant with a recent undergraduate accounting degree should satisfy most of the core foundation requirements. Other recent related business coursework may partially satisfy these core requirements. The business foundation core is designed for students with a nonbusiness undergraduate degree (e.g., psychology, education, or engineering). The accounting foundation core is designed for students with an undergraduate business degree (e.g., finance, marketing, or management). All business and accounting foundation core deficiencies must be satisfied before graduate MSA coursework can be taken. Before taking any foundation courses, please have your undergraduate transcripts reviewed by the MSA/MST Program Advisor.

Business Foundation Core—21 Credit Hours

- ACG 2021 Financial Accounting (3 credit hours)
- ACG 2071 Managerial Accounting (3 credit hours)
- ECO 2013 Macroeconomics (3 credit hours)
- ECO 2023 Microeconomics (3 credit hours)
- ECO 3401 Quantitative Business Tools I (3 credit hours)
- ECO 3411 Quantitative Business Tools II (3 credit hours)
- FIN 3403 Business Finance (3 credit hours)

Accounting Foundation Core—22 Credit Hours

- ACG 3131 Intermediate Financial Accounting I (3 credit hours)
- ACG 3141 Intermediate Financial Accounting II (3 credit hours)
- ACG 3361 Cost Accounting I (3 credit hours)
- ACG 4401 Accounting Information Systems (3 credit hours)
- ACG 4651 Auditing (3 credit hours)
- BUL 3130 Legal and Ethical Environment of Business (4 credit hours)
- TAX 4001 Taxation of Business Entities and Transactions (3 credit hours)

Required Courses—15 Credit Hours

- ACG 6636 Advanced Auditing (3 credit hours)
- ACG 6805 Accounting Theory (3 credit hours)
- TAX 5015 Advanced Tax Topics (3 credit hours)
- TAX 6065 Tax Research (3 credit hours)
- TAX 6845 Tax Planning and Consulting (3 credit hours)

Elective Courses—15 Credit Hours

Restricted Tax Elective Courses—6 Credit Hours

- TAX 6317 Taxation of Flow-thru Entities (3 credit hours)
- TAX 6527 Multi-jurisdictional Taxation (3 credit hours)
- TAX 6875 Contemporary Tax Topics (3 credit hours)
- TAX 6946 Graduate Tax Internship (3 credit hours)

Restricted Elective Courses—9 Credit Hours

MSA students can take additional TAX courses or ACG courses as restricted electives. Most MBA courses other than ACG 6425 and BUL 6444 may be taken as restricted electives. BUL 5332 Advanced Business Law Topics is required for UCF students with an undergraduate degree in accounting who plan to take the CPA exam. Please note that some of the MBA courses may be restricted to only those students enrolled within a specific MBA track. Up to six hours may be selected from outside the College of Business Administration. Courses outside the College of Business Administration must be selected with the student's area of interest and/or career objectives in mind and with the approval of the program adviser.

Other Requirements

The satisfactory completion of an end-of-program comprehensive written examination is required. The MST program does not require a thesis.

Additional Program Requirements

Any student enrolled in a College of Business Administration master's degree program who earns more than two final course grades below a B- will be dismissed from the program and retention plans will not be supported by the College of Business Administration.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide an official, competitive GMAT score taken within the last five years, a 3.0 GPA in upper division accounting and tax courses, and a résumé; applicants from countries where English is not the official language or applicants with degrees from non-U.S. accredited institutions must achieve a minimum score of 233 on the TOEFL; applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program need the following:

- One official transcript (in a sealed envelope) from each college/university attended.
- 3.0 GPA in upper division accounting and tax courses.
- Official, competitive GMAT score taken within the last five years.
- Résumé.
- A computer-based score of 233 (or 91 internet-based score) on the Test of English as a Foreign language (TOEFL) if an applicant is from a country where English is not the official language, or if an applicant's degree is not from an accredited U.S. institution, or if an applicant did not earn a degree in a country where English is the only official language or a university where English is the only official language of instruction. Although we prefer the TOEFL, we will accept IELTS scores of 7.0.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Taxation MST	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Charles Kelliher PhD
Associate Professor
Program Director
charles.kelliher@ucf.edu
407-823-5128
BA 1 - 324

Teacher Education MAT

PROGRAM DESCRIPTION

The Master of Arts in Teaching graduate program was created to allow individuals who are not certified to teach to become effective, certified teachers of secondary content areas.

The MAT program offers tracks in 9 secondary content areas: Art Education, English Education, Mathematics Education, Middle School Mathematics Education, Science Education-Biology, Science Education-Chemistry, Science Education-Physics, Science Education-Middle School, and Social Science Education. Graduation from this state-approved MAT includes the successful completion of a 6-hour internship, submission of a comprehensive portfolio, and passing scores on all sections of the Florida Teacher Certification Examination. The Master of Arts in Teaching admits in spring and summer terms only.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see education.ucf.edu/teach_grad.cfm for more information.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

Scott Waring PhD
Associate Professor
Program Director
socscied@ucf.edu
407-823-1766
ED 206J

Teacher Education MAT

Art Education

TRACK DESCRIPTION

The Teacher Education MAT, Art Education is a state-approved initial teacher preparation program for students seeking certification to teach Art in grades K-12, including students previously certified to teach in another field.

The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

CURRICULUM

The Teacher Education MAT, Art Education requires a minimum of 37 credit hours beyond the bachelor's degree. The program is a K-12 program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

Total Credit Hours Required:

37 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—29 Credit Hours

Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management* (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment** (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

*Must be taken in the first semester in the program.

**Must be taken prior to internship.

Specialization—16 Credit Hours

- RED 5147 Developmental Reading (3 credit hours)
- ARE 5359 Teaching Art K-12 (4 credit hours)
- ARE 6905 Research Trends in Art Education (3 credit hours)
- ARE Elective Number One (with approval of adviser, 3 credit hours)
- ARE Elective Number Two (with approval of adviser, 3 credit hours)

Internship—6 Credit Hours

- ARE 6946 Graduate Internship (6 credit hours, taken over two semesters***)

***The two semester requirement applies to on-the-job internships and most traditional internships. Traditional internships may be completed in one semester with advisor approval.

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at http://www.education.ucf.edu/clinicalexp/
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 30 credit hours of art course work to meet certification requirements to teach art in grades K-12.

These may be previously earned undergraduate or graduate credits, or include graduate content area credits approved for electives in the program. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Equipment Fee

Students in the Master of Arts in Teacher Education program pay a $64 equipment each semester that they are enrolled. Part-time students pay $32 per semester.

INDEPENDENT LEARNING

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide one official transcript (in a sealed envelope) from each college/university attended. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Passing score on all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT) OR a competitive score on the Graduate Record Exam (GRE) score. This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires demonstrating mastery of general knowledge.
- NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a new Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- To align with current student standards and, therefore, be acceptable to satisfy educator requirements, a passing score on an examination identified in state board rule must have been earned during the ten (10) years immediately preceding application and qualification for a certificate, unless otherwise stipulated in relevant statue or rule.

Students may not switch from an MAT program to an MEd program, or vice versa, without going through the university's application process. Courses used to gain initial state certification may not be transferred into a MEd program.

Application Deadlines

Art Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Dec 1	
International Applicants			Jul 1	Jul 1
International Transfer Applicants			Aep 1	Dec 15

CONTACT INFO

Debra McGann EdD
Lecturer
Program Director
debra.mcgann@ucf.edu
ED 122C

Teacher Education MAT

English Language Arts Education with ESOL Endorsement

TRACK DESCRIPTION

The Teacher Education MAT, English Language Arts Education with ESOL Endorsement is a state-approved initial teacher preparation program for students seeking certification to teach English in grades 6-12, including students previously certified to teach in another field.

The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

CURRICULUM

The Teacher Education MAT, English Language Arts Education with ESOL Endorsement program requires a minimum of 39 credit hours beyond the bachelor's degree that includes ESOL endorsement and the option of adding Reading K-12 endorsement. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

Total Credit Hours Required:

39 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—31 Credit Hours

Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management* (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment** (3 credit hours)

*Must be taken in the first semester in the program.

**Must be taken prior to internship.

Specialization—18 Credit Hours

- LAE 6637 Research in Teaching English (3 credit hours)
- LAE 5338 Teaching Writing in Middle and High School (3 credit hours)
- LAE 5346 Methods of Teaching English Language Arts (3 credit hours)
- LAE 5465 Literature for Adolescents (3 credit hours)
- LAE 5369 Literacy Strategies in a Digital Age for Middle and High School (3 credit hours) or RED 5147 Developmental Reading (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)

Internship—6 Credit Hours

- LAE 6946 Graduate Internship (6 credit hours, taken over two semesters***)

***The two semester requirement applies to on-the-job internships and most traditional internships. Traditional internships may be completed in one semester with advisor approval.

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at http://www.education.ucf.edu/clinicalexp/
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in all Florida Educator Accomplished Practices (FEAPs).
- Students are required to complete 30 credit hours of co-requisite undergraduate and graduate English course work to meet certification requirements to teach English, grades 6-12. These may be previously earned undergraduate or graduate English credits, or include graduate credits in English approved for electives in the program. Only six credit hours of independent study courses may be used to satisfy degree requirements. It is important

to see an adviser if courses are difficult to schedule in content areas.

- Pass all applicable sections of the Florida Teacher Certification Examination.

Equipment Fee

Students in the Master of Arts in Teacher Education program pay a $64 equipment each semester that they are enrolled. Part-time students pay $32 per semester.

INDEPENDENT LEARNING

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide one official transcript (in a sealed envelope) from each college/university attended. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Passing score on all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT) OR a competitive score on the Graduate Record Exam (GRE) score. This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires demonstrating mastery of general knowledge.
- **UPDATE:** In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted **on or after July 1, 2015**, may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT SUBTEST	GRE SUBTEST	MINIMUM GRE SCORE REQUIRED TO SUBSTITUTE FOR GK SUBTEST
GK Writing Subtest (Essay)	GRE Analytical Writing	A combined score of 4 out of 6
GK English Language Subtest Skills	GRE Verbal Reasoning	A scaled score of 151
GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

- NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a new Florida Educator's

Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- To align with current student standards and, therefore, be acceptable to satisfy educator requirements, a passing score on an examination identified in state board rule must have been earned during the ten (10) years immediately preceding application and qualification for a certificate, unless otherwise stipulated in relevant statue or rule.

Students may not switch from an MAT program to an MEd program, or vice versa, without going through the university's admission process.

Application Deadlines

English Language Arts Education with ESOL Endorsement	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Dec 1	
International Applicants			Jul 1	Nov 1
International Transfer Applicants			Sep 1	Dec 15

CONTACT INFO

Janet Andreasen PhD
Lecturer
Program Director
janet.andreasen@ucf.edu
ED 123-Q

Teacher Education MAT

Mathematics Education

TRACK DESCRIPTION

The Teacher Education MAT, Mathematics Education is a state-approved initial teacher preparation program for students seeking certification to teach Mathematics in grades 6-12, including students previously certified to teach in another field. A track is also available for Middle School Mathematics (grades 5-9).

The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see education.ucf.edu/teach_grad.cfm for more information.

CURRICULUM

The Teacher Education MAT, Mathematics Education program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—19 Credit Hours

Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment** (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

*Must be taken in the first semester in the program.

**Must be taken prior to internship

Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- MAE 5336 Current Methods in Secondary School Mathematics (3 credit hours)

Elective Courses—9 Credit Hours

Students should select three of the following specialization courses. Course substitutions can be made with approval of adviser.

- IDS 6515 Classroom Management for Mathematics and Science Teachers (3 credit hours)
- IDS 6939 Reforming Curriculum in Mathematics and Science Education (3 credit hours)
- MAE 6337 Teaching Algebra in the Secondary School (3 credit hours)
- MAE 6338 Teaching Geometry in the Secondary School (3 credit hours)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- MAE 6641 Problem Solving and Critical Thinking Skills (3 credit hours)
- MAE 6656 Using Technology in the Instruction of K-12 Mathematics (3 credit hours)
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)

Internship—6 Credit Hours

- MAE 6946 Graduate Internship (6 credit hours, taken over two semesters***)

***The two semester requirement applies to on-the-job internships and most traditional internships. Traditional internships may be completed in one semester with advisor approval.

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at http://www.education.ucf.edu/clinicalexp/
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 30 credit hours of mathematics course work to meet certification requirements to teach mathematics in grades 6-12. These may be previously earned undergraduate or graduate mathematics credits or include graduate credits in mathematics approved for electives in the program. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Equipment Fee

Students in the Master of Arts in Teacher Education program pay a $64 equipment each semester that they are enrolled. Part-time students pay $32 per semester.

INDEPENDENT LEARNING

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide one official transcript (in a sealed envelope) from each college/university attended. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Passing score on all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT) OR a competitive score on the Graduate Record Exam (GRE) score. This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and

State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires demonstrating mastery of general knowledge.

- **UPDATE:** In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted **on or after July 1, 2015**, may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT SUBTEST	GRE SUBTEST	MINIMUM GRE SCORE REQUIRED TO SUBSTITUTE FOR GK SUBTEST
GK Writing Subtest (Essay)	GRE Analytical Writing	A combined score of 4 out of 6
GK English Language Subtest Skills	GRE Verbal Reasoning	A scaled score of 151
GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

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- NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a new Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).

- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- To align with current student standards and, therefore, be acceptable to satisfy educator requirements, a passing score on an examination identified in state board rule must have been earned during the ten (10) years immediately preceding application and qualification for a certificate, unless otherwise stipulated in relevant statue or rule.

Students may not switch from an MAT program to an MEd program, or vice versa, without going through the university's admission process.

Application Deadlines

Mathematics Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Dec 1	
International Applicants			Jul 1	Nov 1
International Transfer Applicants			Sep 1	Dec 15

CONTACT INFO

Janet Andreasen PhD
Lecturer
Program Director
janet.andreasen@ucf.edu
ED 123-Q

Teacher Education MAT

Middle School Mathematics Education

TRACK DESCRIPTION

The Teacher Education MAT, Middle School Mathematics Education is a state-approved initial teacher preparation program for students seeking certification to teach mathematics in grades 5-9, including students previously certified to teach in another field.

The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see education.ucf.edu/teach_grad.cfm for more information.

CURRICULUM

The Teacher Education MAT, Middle School Mathematics Education program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 5-9) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—19 Credit Hours

Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment** (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

*Must be taken in the first semester in the program.

**Must be taken prior to internship.

Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)

- MAE 5327 Teaching Middle School Mathematics (3 credit hours)

Elective Courses—9 Credit Hours

Students should select three of the following specialization courses. Course substitutions can be made with approval of adviser.

- IDS 6515 Classroom Management for Mathematics and Science Teachers (3 credit hours)
- IDS 6939 Reforming Curriculum in Mathematics and Science Education (3 credit hours)
- MAE 6337 Teaching Algebra in the Secondary School (3 credit hours)
- MAE 6338 Teaching Geometry in the Secondary School (3 credit hours)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- MAE 6641 Problem Solving and Critical Thinking Skills (3 credit hours)
- MAE 6656 Using Technology in the Instruction of K-12 Mathematics (3 credit hours)
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)

Internship—6 Credit Hours

- MAE 6946 Graduate Internship (6 credit hours, taken over two semesters***)

***The two semester requirement applies to on-the-job internships and most traditional internships. Traditional internships may be completed in one semester with advisor approval.

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at http://www.education.ucf.edu/clinicalexp/
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 18 credit hours of mathematics course work to meet certification requirements to teach mathematics in grades 5-9. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Equipment Fee

Students in the Master of Arts in Teacher Education program pay a $64 equipment each semester that they are enrolled. Part-time students pay $32 per semester.

INDEPENDENT LEARNING

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment for all of the Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide one official transcript (in a sealed envelope) from each college/university attended. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Passing score on all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT) OR a competitive score on the Graduate Record Exam (GRE) score. This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires demonstrating mastery of general knowledge.
- **UPDATE:** In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted **on or after July 1, 2015**, may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT SUBTEST	GRE SUBTEST	MINIMUM GRE SCORE REQUIRED TO SUBSTITUTE FOR GK SUBTEST
GK Writing Subtest (Essay)	GRE Analytical Writing	A combined score of 4 out of 6
GK English Language Subtest Skills	GRE Verbal Reasoning	A scaled score of 151
GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

-
- NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a new Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- To align with current student standards and, therefore, be acceptable to satisfy educator requirements, a passing score on an examination identified in state board rule

must have been earned during the ten (10) years immediately preceding application and qualification for a certificate, unless otherwise stipulated in relevant statue or rule.

Students may not switch from an MAT program to an MEd program, or vice versa, without going through the university's application process.

Application Deadlines

Middle School Mathematics Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Dec 1	
International Applicants			Jul 1	Nov 1
International Transfer Applicants			Sep 1	Dec 15

CONTACT INFO

Enrique Ortiz PhD
Associate Professor
Program Director
enrique.ortiz@ucf.edu
407-823-5222
Education 123G

Teacher Education MAT

Science Education-Biology

TRACK DESCRIPTION

The Teacher Education MAT, Science Education - Biology is a state-approved initial teacher preparation program for students seeking certification to teach Biology in grades 6-12, including students previously certified to teach in another field.

The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see education.ucf.edu/teach_grad.cfm for more information.

CURRICULUM

The Teacher Education MAT, Science Education, Biology program requires a minimum of 36 credit hours beyond the bachelor’s degree. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—19 Credit Hours

Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment** (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

*Must be taken in the first semester in the program.

**Must be taken prior to internship.

Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- SCE 5337 Issues and Methods in Secondary School Science (3 credit hours)

Elective Courses—9 Credit Hours

The elective courses are chosen in accord with the student's area of specialization.

- Electives approved by adviser (9 credit hours)

Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours, taken over two semesters***)

***The two semester requirement applies to on-the-job internships and most traditional internships. Traditional internships may be completed in one semester with advisor approval.

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at http://www.education.ucf.edu/clinicalexp/
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 30 credit hours of co-requisite science course work to meet certification requirements to teach science in grades 6-12. These may be previously earned undergraduate or graduate science credits, or include graduate credits in science approved for electives in the program. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Equipment Fee

Students in the Master of Arts in Teacher Education program pay a $64 equipment each semester that they are enrolled. Part-time students pay $32 per semester.

INDEPENDENT LEARNING

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide one official transcript (in a sealed envelope) from each college/university attended. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Passing score on all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT) OR a competitive score on the Graduate Record Exam (GRE) score. This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires demonstrating mastery of general knowledge.
- **UPDATE:** In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted **on or after July 1, 2015**, may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT SUBTEST	GRE SUBTEST	MINIMUM GRE SCORE REQUIRED TO SUBSTITUTE FOR GK SUBTEST
GK Writing Subtest (Essay)	GRE Analytical Writing	A combined score of 4 out of 6
GK English Language Subtest Skills	GRE Verbal Reasoning	A scaled score of 151
GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

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- NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a new Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- To align with current student standards and, therefore, be acceptable to satisfy educator requirements, a passing score on an examination identified in state board rule must have been earned during the ten (10) years immediately preceding application and qualification for a certificate, unless otherwise stipulated in relevant statue or rule.

Students may not switch from an MAT program to an MEd program without going through the university's application process.

Application Deadlines

Science Education-Biology	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Dec 1	
International Applicants			Jul 1	Nov 1
International Transfer Applicants			Sep 1	Dec 15

CONTACT INFO

Janet Andreasen PhD
Lecturer
Program Director
janet.andreasen@ucf.edu
ED 123-Q

Teacher Education MAT

Science Education-Chemistry

TRACK DESCRIPTION

The Teacher Education MAT, Science Education - Chemistry is a state-approved initial teacher preparation program for students seeking certification to teach Chemistry in grades 6-12, including students previously certified to teach in another field.

The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see education.ucf.edu/teach_grad.cfm for more information .

CURRICULUM

The Teacher Education MAT, Science Education - Chemistry program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—19 Credit Hours

Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment** (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

*Must be taken in the first semester in the program.

**Must be taken prior to internship.

Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- SCE 5337 Issues and Methods in Secondary School Science (3 credit hours)

Elective Courses—9 Credit Hours

The elective courses are chosen in keeping with the student's area of specialization.

- Electives approved by adviser (9 credit hours)

Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours, taken over two semesters***)

***The two semester requirement applies to on-the-job internships and most traditional internships. Traditional internships may be completed in one semester with advisor approval.

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at http://www.education.ucf.edu/clinicalexp/
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 30 credit hours of co-requisite science course work to meet certification requirements to teach science in grades 6-12. These may be previously earned undergraduate or graduate science credits, or include graduate credits in science approved for electives in the program. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Equipment Fee

Students in the Master of Arts in Teacher Education program pay a $64 equipment each semester that they are enrolled. Part-time students pay $32 per semester.

INDEPENDENT LEARNING

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide one official transcript (in a sealed envelope) from each college/university attended. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Passing score on all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT) OR a competitive score on the Graduate Record Exam (GRE) score. This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires demonstrating mastery of general knowledge.
- **UPDATE:** In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted **on or after July 1, 2015**, may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT SUBTEST	GRE SUBTEST	MINIMUM GRE SCORE REQUIRED TO SUBSTITUTE FOR GK SUBTEST
GK Writing Subtest (Essay)	GRE Analytical Writing	A combined score of 4 out of 6
GK English Language Subtest Skills	GRE Verbal Reasoning	A scaled score of 151
GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

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- NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a new Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- To align with current student standards and, therefore, be acceptable to satisfy educator requirements, a passing score on an examination identified in state board rule must have been earned during the ten (10) years immediately preceding application and qualification for a certificate, unless otherwise stipulated in relevant statue or rule.

Students may not switch from an MAT program to an MEd program without going through the university's application process.

Application Deadlines

Science Education-Chemistry	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Dec 1	
International Applicants			Jul 1	Nov 1
International Transfer Applicants			Sep 1	Dec 15

CONTACT INFO

Janet Andreasen PhD
Lecturer
Program Director
janet.andreasen@ucf.edu
ED 123-Q

Teacher Education MAT

Middle School Science Education

TRACK DESCRIPTION

The Teacher Education MAT, Middle School Science Education is a state-approved initial teacher preparation program for students seeking certification to teach science in grades 5-9, including students previously certified to teach in another field.

The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see education.ucf.edu/teach_grad.cfm for more information.

CURRICULUM

The Teacher Education MAT, Middle School Science Education program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 5-9) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—28 Credit Hours

Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment** (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

*Must be taken in the first semester in the program.

**Must be taken prior to internship.

Specialization—15 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)

- SCE 5325 Teaching Middle School Science (3 credit hours)
- ISC 6146 Environmental Education (3 credit hours)
- SCE 5836 Space Science for Educators (3 credit hours)
- One elective approved by adviser (3 credit hours)

Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours, taken over two semesters***)

***The two semester requirement applies to on-the-job internships and most traditional internships. Traditional internships may be completed in one semester with advisor approval.

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at http://www.education.ucf.edu/clinicalexp/
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 18 credit hours of science course work to meet certification requirements to teach science in grades 5-9. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Equipment Fee

Students in the Master of Arts in Teacher Education program pay a $64 equipment each semester that they are enrolled. Part-time students pay $32 per semester.

INDEPENDENT LEARNING

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide one official transcript (in a sealed envelope) from each college/university attended. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Passing score on all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT) OR a competitive score on the Graduate Record Exam (GRE) score. This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires demonstrating mastery of general knowledge.
- **UPDATE:** In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted **on or after July 1, 2015**, may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT SUBTEST	GRE SUBTEST	MINIMUM GRE SCORE REQUIRED TO SUBSTITUTE FOR GK SUBTEST
GK Writing Subtest (Essay)	GRE Analytical Writing	A combined score of 4 out of 6
GK English Language Subtest Skills	GRE Verbal Reasoning	A scaled score of 151
GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

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- NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a new Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- To align with current student standards and, therefore, be acceptable to satisfy educator requirements, a passing score on an examination identified in state board rule must have been earned during the ten (10) years immediately preceding application and qualification for a certificate, unless otherwise stipulated in relevant statue or rule.

Students may not switch from an MAT program to an MEd program without going through the university's application process.

Application Deadlines

Middle School Science Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Dec 1	
International Applicants			Jul 1	Nov 1
International Transfer Applicants			Sep 1	Dec 15

CONTACT INFO

Janet Andreasen PhD
Lecturer
Program Director
janet.andreasen@ucf.edu
ED 123-Q

Teacher Education MAT

Science Education-Physics

TRACK DESCRIPTION

The Teacher Education MAT, Science Education – Physics is a state-approved initial teacher preparation program for students seeking certification to teach Physics in grades 6-12, including students previously certified to teach in another field.

The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

Students in the Mathematics Education and Science Education tracks may be eligible for Teacher Education Assistance for College and Higher Education (TEACH) grant. Please see education.ucf.edu/teach_grad.cfm for more information.

CURRICULUM

The Teacher Education MAT, Science Education – Physics program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—19 Credit Hours

Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment** (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

*Must be taken in the first semester in the program.

**Must be taken prior to internship.

Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- SCE 5337 Issues and Methods in Secondary School Science (3 credit hours)

Elective Courses—9 Credit Hours

Students choose electives in keeping with their specialization.

- Electives approved by adviser (9 credit hours)

Internship—6 Credit Hours

- SCE 6946 Graduate Internship (6 credit hours, taken over two semesters***)

***The two semester requirement applies to on-the-job internships and most traditional internships. Traditional internships may be completed in one semester with advisor approval.

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.
- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at http://www.education.ucf.edu/clinicalexp/
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.

- Students are required to have 30 credit hours of co-requisite science course work to meet certification requirements to teach science in grades 6-12. These may be previously earned undergraduate or graduate science credits, or include graduate credits in science approved for electives in the program. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Equipment Fee

Students in the Master of Arts in Teacher Education program pay a $64 equipment each semester that they are enrolled. Part-time students pay $32 per semester.

INDEPENDENT LEARNING

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide one official transcript (in a sealed envelope) from each college/university attended. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Passing score on all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT) OR a competitive score on the Graduate Record Exam (GRE) score. This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-approved initial teacher preparation program requires demonstrating mastery of general knowledge.
- **UPDATE:** In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted **on or after July 1, 2015**, may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT SUBTEST	GRE SUBTEST	MINIMUM GRE SCORE REQUIRED TO SUBSTITUTE FOR GK SUBTEST
GK Writing Subtest (Essay)	GRE Analytical Writing	A combined score of 4 out of 6
GK English Language Subtest Skills	GRE Verbal Reasoning	A scaled score of 151
GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

- NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a new Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- To align with current student standards and, therefore, be acceptable to satisfy educator requirements, a passing score on an examination identified in state board rule must have been earned during the ten (10) years immediately preceding application and qualification for a certificate, unless otherwise stipulated in relevant statue or rule.

Students may not switch from an MAT program to an MEd program without going through the university's application process.

Application Deadlines

Science Education-Physics	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Dec 1	
International Applicants			Jul 1	Nov 1
International Transfer Applicants			Sep 1	Dec 15

CONTACT INFO

Janet Andreasen PhD
Lecturer
Program Director
janet.andreasen@ucf.edu
ED 123-Q

Teacher Education MAT

Social Science Education

TRACK DESCRIPTION

The Teacher Education MAT, Social Science Education is a state-approved initial teacher preparation program for students seeking certification to teach Social Science in grades 6-12, including students previously certified to teach in another field.

The Master of Arts in Teaching is a state-approved initial teacher preparation program that is subject to any change in the Florida Administrative Code (State Board of Education Rule 6A-5.066). Students enrolled in this program should remain in close contact with their adviser to keep informed of any program changes implemented to comply with new state requirements.

CURRICULUM

The Teacher Education MAT, Social Science Education program requires a minimum of 36 credit hours beyond the bachelor's degree. The program is a secondary (grades 6-12) program for noneducation majors at the undergraduate level or teachers previously certified in another field.

The MAT requires an online portfolio of both reflective practice/analysis of professional development and demonstration of attainment of the beginning level of performance for all Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText access is required for the portfolio. In addition, an internship is required.

Total Credit Hours Required:

36 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—19 Credit Hours

Core—13 Credit Hours

- ESE 6935 Introductory Seminar in Secondary Education* (1 credit hour)
- EDG 6415 Principles of Instruction and Classroom Management* (3 credit hours)
- EDF 6727 Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment** (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

*Must be taken in the first semester in the program.

**Must be taken prior to internship.

Methods—6 Credit Hours

- LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- SSE 5790 Inquiry and Instructional Analysis in Social Science Education (3 credit hours)

Elective Courses—9 Credit Hours

These electives are chosen in the student's area of specialization, and all must be at the 5000 level and higher. Substitutions may be approved by the student's adviser.

- SSE electives (6 credit hours)
- Social science content elective in other programs and departments (3 credit hours minimum), including, but not limited to, the following course prefixes: AFH, AMH, ASH, CPO, EUH, HIS, INR, LAH, or POS.

Internship—6 Credit Hours

- SSE 6946 Graduate Internship (6 credit hours, taken over two semesters***)

***The two semester requirement applies to on-the-job internships and most traditional internships. Traditional internships may be completed in one semester with advisor approval.

Students should ensure that they meet all requirements for Graduate Internship.

- Complete 24 credit hours of the program, including all core courses plus methods courses.
- Overall graduate GPA must be 3.0 or higher.

- No more than 6 credit hours of co-requisite content requirements can be outstanding at the time of admission to graduate internship.
- Passing scores on the appropriate Subject Area Examination and Professional Education Examination are required prior to admission to the second semester of graduate internship.
- Students must apply and be approved for graduate internship. Deadline dates and applications are available through the Office of Clinical Experiences at http://www.education.ucf.edu/clinicalexp/
- Satisfactory completion of the Graduate Internship requires the student to demonstrate proficiency in all Florida Educator Accomplished Practices at the beginning level in accordance with State Board of Education Rule 6A-5.065.

Culminating Experience—2 Credit Hours

- ESE 6256 Critical Issues in Secondary Education (1 credit hour, taken twice)

Additional Program Requirements

- Complete an electronic portfolio according to program guidelines. This portfolio requires demonstration of professional growth, reflection, and proficiency in the Florida Educator Accomplished Practices.
- Pass all required sections of the Florida Teacher Certification Examination.
- Students are required to have 30 credit hours of social science course work to meet certification requirements to teach social science in grades 6-12. These may be previously earned undergraduate or graduate social science credits or include graduate credits in social science approved for electives in the program. Only six hours of independent study courses may be used to satisfy degree requirements. It is important to see an adviser if courses are difficult to schedule in content areas.

Equipment Fee

Students in the Master of Arts in Teacher Education program pay a $64 equipment each semester that they are enrolled. Part-time students pay $32 per semester.

INDEPENDENT LEARNING

The MAT requires a portfolio of both reflective practice/analysis of professional development and demonstration of attainment for all of the Florida Educator Accomplished Practices (FEAPs). Multiple artifacts and reflective analysis are required for each of the accomplished practices. All portfolio entries are critical components of learning since they are the primary means of accessing the professional development of students as reflective practitioners. LiveText is required for the portfolio. In addition, an internship is required.

APPLICATION REQUIREMENTS

In addition to general application requirements, applicants must provide one official transcript (in a sealed envelope) from each college/university attended. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Passing score on all four parts of the Florida Teacher Certification Examination/General Knowledge Test (FTCE/GKT) OR a competitive score on the Graduate Record Exam (GRE) score. This program does not require GRE for admission, but in accordance with Florida Statute 1004.4 and State Board of Education Rule 6A-5.066, admission to this graduate-level, state-

approved initial teacher preparation program requires demonstrating mastery of general knowledge.

- **UPDATE:** In order to demonstrate mastery of general knowledge, Graduate Record Exam test administrations conducted on or after July 1, 2015, may be used as an acceptable means of demonstrating a mastery of general knowledge. A minimum passing score on a GRE subtest in an applicable general knowledge content area, as defined in the table below, will satisfy the requirement of demonstrating a mastery of general knowledge for the applicable general knowledge content area.

FTCE GKT SUBTEST	GRE SUBTEST	MINIMUM GRE SCORE REQUIRED TO SUBSTITUTE FOR GK SUBTEST
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GK Reading Subtest	GRE Verbal Reasoning	A scaled score of 151
GK Mathematics Subtest	GRE Quantitative Reasoning	A scaled score of 147

- NOTE: Effective January 1, 2015, only examination results earned by educators within 10 years prior to the date of application for a new Florida Educator's Certificate with the Florida Department of Education may be acceptable for certification eligibility requirements (SBR 6A-4.002).
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- To align with current student standards and, therefore, be acceptable to satisfy educator requirements, a passing score on an examination identified in state board rule must have been earned during the ten (10) years immediately preceding application and qualification for a certificate, unless otherwise stipulated in relevant statue or rule.

Students may not switch from an MAT program to an MEd program, or vice versa, without going through the university's application process.

Application Deadlines

Social Science Education	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Dec 1	
International Applicants			Jul 1	Nov 1
International Transfer Applicants			Sep 1	Dec 15

CONTACT INFO

Scott Waring PhD
Associate Professor
Program Director
socscied@ucf.edu
407-823-1766
ED 206J

Teaching English to Speakers of Other Languages MA

PROGRAM DESCRIPTION

The Master of Arts in Teaching English to Speakers of Other Languages (TESOL) provides students a strong foundation in language acquisition, use, and pedagogy.

The program provides students a strong foundation in language acquisition, use, and pedagogy. Our MATESOL program offers a combined emphasis on research and teaching, thereby graduating successful researchers and teachers.

CURRICULUM

The Teaching English to Speakers of Other Languages MA program requires 30-36 credit hours beyond the bachelor's degree dependent on whether students select a thesis or nonthesis option. The thesis option consists of 30 credit hours that includes 24 credit hours of core courses, 3 credit hours of electives, and 3 credit hours of TSL 6971 Thesis. The nonthesis option requires 36 semester hours and includes 24 semester hours of core courses and 12 semester hours of electives. All students, both thesis and nonthesis, must take a written final comprehensive examination covering the core TSL courses.

Total Credit Hours Required:

30-36 Credit Hours Minimum beyond the Bachelor's Degree

Most students complete the nonthesis option so that they can focus more on course work related to specific aspects of TESOL, pedagogy, or education. The thesis option is appropriate for those students wishing to research current issues in the discipline or eventually pursue a doctoral program in TESOL or related language field. By the end of the second semester, students wishing to pursue the thesis option should speak with the program director to seek approval and a recommendation for a thesis committee chairperson.

Our courses are focused on theory into practice and, therefore, often have a service-learning, practical, or applied project as an integral part of the curriculum. The TSL 6640 Research in Second Language is required and should be taken in the first semester of study. A final cumulative course, TSL 6642 Issues in Second Language Acquisition, is also required. TSL 5325 will help students prepare for their comprehensive exam.

All students must take a comprehensive written examination covering the core TSL courses. This examination is normally taken in the last semester of graduate work and will be reviewed by members of the TESOL Graduate Committee. A student may take the comprehensive examination only twice, and a second examination will not be given in the same semester in which the first attempt occurred.

Required Courses—24 Credit Hours

Eight required core courses provide a strong foundation in the content of the discipline.

- TSL 5525 ESOL Cultural Diversity (3 credit hours)
- TSL 6142 Critical Approaches to ESOL (3 credit hours)

- TSL 6250 Applied Linguistics in ESOL (3 credit hours)
- TSL 6350 Grammar for ESOL Teachers (3 credit hours)
- TSL 6440 Problems in Evaluation in ESOL (3 credit hours)
- TSL 6642 Issues in Second Language Acquisition (3 credit hours)
- TSL 6640 Research in Second Language (3 credit hours)
- TSL 5345 Methods of ESOL Teaching or TSL 6940 ESOL Practicum (3 credit hours)

Elective Courses—3 Credit Hours

All students must take at least 3 credit hours of electives. Electives provide for three distinct areas of interest: TESOL, linguistics, and multicultural education. Students take their elective credit in one of these areas depending on their interests.

TESOL

- TSL 5325 ESOL Strategies (3 credit hours)
- TSL 5380 Computers and Technology for ESOL (3 credit hours)
- TSL 5376 Reading and Writing in a Second Language (3 credit hours)
- TSL 5940 Issues in TEFL (3 credit hours)
- TSL 6252 Sociolinguistics for ESOL (3 credit hours)
- TSL 5601 Second Language Vocabulary Learning (3 credit hours)
- TSL 5907 Directed Independent Study (3 credit hours)
- TSL 6374 TESOL Listening, Speaking and Pronunciation (3 credit hours)

Linguistics

- LIN 5137 Linguistics (3 credit hours)
- LIN 6932 Problems in Linguistics (3 credit hours)

Multicultural Education and Pedagogy

- EDF 6886 Multicultural Education (3 credit hours)
- TSL 6940 ESOL Practicum (3 credit hours)
- EDH 6305 Teaching and Learning in the Community College (3 credit hours)
- SPA 6474 Assessment of Culturally and Linguistically Populations (3 credit hours)
- TSL 5085 Teaching Language to Minority Students K-12 (3 credit hours)
- ENC 5276 Writing/Consulting: Theory and Practice (3 credit hours)
- ENC 5705 Theory and Practice in Composition (3 credit hours)

Research

- EDF 6401 Statistics for Educational Data (3 credit hours)

Thesis Option—3 Credit Hours

- TSL 6971 Thesis (3 credit hours)

Nonthesis Option—9 Credit Hours

Nonthesis students must take an additional 9 credit hours of electives from the list of electives above.

INDEPENDENT LEARNING

All students in the program are required to take TSL 6640 Research in Second Language and TSL 6642 Issues in Second Language Acquisition. Both classes have as a final project a research paper that organizes and summarizes knowledge in a chosen area of study. All classes in the program require a research paper/project allowing students to engage in independent learning.

APPLICATION REQUIREMENTS

In addition to the general admission requirements, applicants must provide an official, competitive GRE score taken within the last five years, two letters of recommendation, and a background questionnaire.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Official, competitive GRE score taken within the last five years.
- Two letters of recommendation.
- Background questionnaire (After an application is received, the graduate program will send the background questionnaire to the applicant. The purpose of this questionnaire is to gain as much information about an applicant's reason for wanting a graduate degree in TESOL. The questionnaire also asks about the applicant's teaching experience, education, research courses, foreign language experience, and cross-cultural background.)

Admission to the UCF MATESOL program is competitive, and meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/academic goals, and the applicant's potential for completing the degree. We strongly recommend that applicants submit their applications and all materials well before the published due dates.

Application Deadlines

Teaching English to Speakers of Other Languages MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Jul 1	Dec 1	Apr 1
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Keith Folse PhD
Program Director
keith.folse@ucf.edu
407-823-0087
CNH 515

Theatre MA

PROGRAM DESCRIPTION

The Master of Arts in Theatre provides high school teachers, community college teachers, and developing theatre scholars the opportunity to strengthen skills and knowledge of theatre beyond the undergraduate level.

The Master of Arts in Theatre provides less practical training than the MFA degree. Since its purpose is not to train persons for professional careers in the arts and entertainment industry, the program of study is more theoretical. MA students typically pursue a variety of goals: increasing specific theatrical skills, extending theatre skills into new areas, preparing for entrance into doctoral Theatre programs, or in the case of educators, expanding their expertise and credentials. Students may be admitted on either a full-time or part-time basis.

CURRICULUM

The Master of Arts in Theatre program offers a rigorous course of study of 39 credit hours minimum, culminating in the writing of a scholarly thesis. Of the 39 credit hours required for the degree, 30 credit hours are required core courses with the other 9 credit hours chosen from a specified list of elective Theatre courses offered by the School.

Total Credit Hours Required:

39 Credit Hours Minimum beyond the Bachelor’s Degree

Candidates must demonstrate the ability to understand the conceptual basis of their art and to be able to articulate that understanding to others. In addition to their theoretical studies, MA students are also required to demonstrate proficiency in theatrical production.

Students must maintain a minimum "B" (3.00) overall Theatre GPA to continue in the major. Fifty percent of graduate course work must be at the 6000 level. Theatre courses with grades of less than "C" will not be counted toward degree requirements. Continuation in the MA program requires a positive annual evaluation. All graduate students must consult with an area adviser. All MA students must successfully complete a written thesis. The thesis proposal must be approved in advance.

Required Courses—21 Credit Hours

Core

- THE 5910 Research Methods in Theatre (3 credit hours)
- THE 6507 Dramatic Theory and Criticism (3 credit hours)
- THE 5205 American Theatre (3 credit hours)
- TPA 5405 Theatre Management for Non-Majors or elective (3 credit hours)
- THE 6086C Careers in Professional Theatre or elective (3 credit hours)
- THE 5307 Contemporary Theatre Practice or Dramatic Literature elective (3 credit hours)
- THE 5945L Theatre Practicum I (1 credit hour)
- THE 5946L Theatre Practicum II (1 credit hour)
- THE 6947L Theatre Practicum III (1 credit hour)

Elective Courses—9 Credit Hours

Other graduate-level courses may be permitted with school approval.

- TPA 5345C 2D Computer Assisted Design for Theatre (3 credit hours)
- TPA 5346C 3D Modeling for Theatre (3 credit hours)
- THE 5288 Period Costumes, Architecture, and Decor I (3 credit hours)
- THE 5289 Period Costumes, Architecture, and Decor II (3 credit hours)
- TPP 6686 Playwriting for Young Audiences (3 credit hours)
- TPP 5246C Circus Arts (2 credit hours)
- TPA 5885C Puppetry (2 credit hours)
- TPP 5125C Improvisation Studio (2 credit hours)
- TPP 5248C Storytelling as a Theatrical Art Form (2 credit hours)

Thesis—9 Credit Hours

- THE 6971 Thesis (9 credit hours)

Course Schedule

YEAR 1

Fall—13 Credit Hours

- THE 5910 Research Methods in Theatre (3 credit hours)
- TPA 5405 Theatre Management for Non-Majors or elective (3 credit hours)
- 5000 level Theatre elective (3 credit hours)
- THE 6507 Dramatic Theory and Criticism (3 credit hours)
- THE 5945L Theatre Practicum I (1 credit hour)

Spring—13 Credit Hours

- THE 6086C Careers in Professional Theatre (3 credit hours)
- THE 5205 American Theatre (3 credit hours)
- THE 5307 Contemporary Theatre Practice (3 credit hours)
- THE 5946L Theatre Practicum II (1 credit hour)
- THE 6971 Thesis (3 credit hours)

YEAR 2

Fall—13 Credit Hours

- 6000-level Theatre electives (6 credit hours)
- THE 6947L Theatre Practicum III (1 credit hour)
- THE 6971 Thesis (6 credit hours)

Examination

A comprehensive Theatre exam is administered to MA majors at the end of their course work. The department allows two attempts at a comprehensive exam.

Transfer and Residency

Students without an earned master's degree can usually transfer up to 9 semester hours of credit into this program. A minimum of 30 credits must be taken at the University of Central Florida. Students must complete a residency requirement of at least two full-time consecutive semesters. A summer session may be counted toward the two consecutive semester requirement.

INDEPENDENT LEARNING

A thesis is required.

APPLICATION REQUIREMENTS

In addition to general admission requirements, applicants must provide an official, competitive GRE score taken within the last five years, a BA or BFA degree in Theatre or equivalent, a 3.0 Theatre GPA, a 5-10 page academic paper, an 8 X 10 headshot, statement of goals, and three letters of recommendation. Students entering the program must be approved by the Graduate Committee of the Department of Theatre in the School of Performing Arts.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BA or BFA in Theatre or equivalent.
- A 3.0 Theatre GPA.
- Official, competitive GRE score taken within the last five years.
- An interview is required.
- 5-10 page academic paper.
- Goals statement.
- An 8 X 10 headshot.
- Three letters of recommendation.
- Complete the general entrance prerequisites.

General Entrance Prerequisites—Students applying for entrance into the MA program must have successfully completed the following undergraduate courses or their equivalent: Script Analysis or Play Analysis, Theatre History I and II, Dramatic Literature I and II, Directing I.

Each student entering the program must be approved by the Graduate Committee of the Department of Theatre in the School of Performing Arts.

Application Deadlines

Theatre MA	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Mar 15	Dec 1	Apr 15
International Applicants	Jan 15	Jan 15	Jul 1	Nov 1
International Transfer Applicants	Jan 15	Mar 1	Sep 1	Dec 15

CONTACT INFO

Julia Listengarten PhD
Professor
Program Director
julia.listengarten@ucf.edu
407-823-3858
PAC T220

Urban and Regional Planning MS

PROGRAM DESCRIPTION

The Master of Science in Urban and Regional Planning program is designed to produce graduates with the analytical skills and managerial knowledge to pursue successful careers in urban, metropolitan, and regional planning and closely related fields.

Students will receive an interdisciplinary, holistic educational experience emphasizing sustainability and socially responsible planning.

CURRICULUM

The Master of Science in Urban and Regional Planning consists of 48 credit hours. Each student completes a core of nine courses (27 credit hours), restricted elective courses (15 credit hours), and a Capstone project (6 credit hours).

The Master of Science in Urban and Regional Planning (MSURP) program is a face-to-face program. While some courses are offered online, students admitted to the MSURP program are expected to attend face-to-face classes offered week nights on the main campus. The MSURP also incorporates community based projects into most courses. Group projects are intended to develop leadership abilities while also providing an opportunity to show students are capable of working as part of a team. Group projects promote important intellectual and social skills and help to prepare students for work in a world in which teamwork and collaboration are increasingly the norm.

Courses and credit hours used for undergraduate degrees cannot be applied toward the MSURP degree, except for Senior Scholar students. UCF undergraduate students approved to participate in the Senior Scholar program may, with the permission of the MSURP program director, use up to 9 credit hours of graduate course work from their bachelor's degree toward the MSURP degree. However, no undergraduate-level courses will be accepted in the MSURP program.

Total Credit Hours Required:

48 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—33 Credit Hours

Core—27 Credit Hours

- PAD 5336 Introduction to Urban Planning (3 credit hours)
- PAD 5337 Urban Design (3 credit hours)
- PAD 5338 Land Use and Planning Law (3 credit hours)
- PAD 5356 Managing Community and Economic Development (3 credit hours)
- PAD 6316 Planning Methods (3 credit hours)
- PAD 6353 Environmental Planning and Policy (3 credit hours)
- PAD 6387 Transportation Policy (3 credit hours)
- PAD 6825 Cross-Sectoral Governance (3 credit hours)
- PAD 6847 Planning Healthy Communities (3 credit hours)

Capstone or Final Product—6 Credit Hours

The final product will be a studio experience for six credit hours.

- IDS 6953 Urban and Regional Planning Capstone I (3 credit hours)
- IDS 6954 Urban and Regional Planning Capstone II (3 credit hours)

Students work in teams for the final product in the planning degree program under the supervision of a faculty adviser. Students work closely with community partners in conducting an applied planning project. Part of the capstone experience is a presentation of their final project.

Elective Courses—15 Credit Hours

Planning Elective Courses—9 Credit Hours

Students take 9 credits (three courses) from the list of courses below. Faculty members who conduct research in the area of concentration may serve as advisers in selecting electives. An internship may be utilized by students to expand their experience in planning.

- PAD 6254 Economics of Land Use Planning and Development (3 credit hours)
- PAD 6397 Managing Emergencies and Crises (3 credit hours)
- PAD 6339 Housing Development and Planning (3 credit hours)
- PAD 6355 Growth Management Approaches and Techniques (3 credit hours)
- PAD 6716 Information Systems for Public Managers and Planners (3 credit hours)
- URP 6711 Sustainable Transportation Planning (3 credit hours)
- PAD 6946 Internship (3 credit hours)

General Electives—6 Credit Hours

Students take two general elective courses for six credit hours. These courses should first be taken from the additional planning electives listed above, however students can choose general elective courses from any of the PAD courses offered by the School of Public Administration. With prior approval from the MSURP Program Director, general electives courses can be taken from outside the School of Public Administration. Students must show that these courses directly support a career in urban and regional planning.

Internship

Students without practical administrative experience in the public sector are strongly advised to complete an internship (3 credit hours).

- PAD 6946 Internship (3 credit hours)

Additional Program Requirements

Students must achieve a grade of "B-" (80%) or higher in every course listed under core requirements and in the Capstone Experience courses.

Students must maintain a program of study and graduate status GPA of 3.0 or higher and can only graduate with a graduate status GPA of 3.0 or higher.

The School of Public Administration incorporates service learning into some courses. Service learning is a teaching method that provides a means for every student to enhance his or her academic program with experiential learning opportunities. Service learning provides an opportunity for students to work with community partners by collecting and compiling data and producing quality products that will be beneficial to both students and organizations.

Students are expected to be computer literate and have computer internet access upon entry to the program.

INDEPENDENT LEARNING

Independent learning is demonstrated throughout the curriculum through the process of inquiry and dialogue. Tangible projects, such as research scholarly papers, internships, and the Capstone/Final Project also contribute to the self-development of students. The planning study in the Capstone/Final Project will focus on reviewing and analyzing contemporary planning issues in order to help students acquire knowledge and skills pertaining to best practices in a variety of planning subfields. The Capstone/Final Project provides opportunities for independent learning experience.

APPLICATION REQUIREMENTS

In addition to meeting general admission requirements, applicants must provide three letters of recommendation, a résumé, and a goal statement. Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only. Admission is open to those with a bachelor's degree from a regionally accredited institution with a minimum overall undergraduate GPA of 3.0 (on a 4.0 scale) or in the last 60 hours.

In addition to meeting general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Three letters of recommendation evaluating scholarly and professional capacity. Letters from professors from the colleges/universities attended are preferred, but if that is not feasible, letters from current or past supervisors will be accepted. The recommender must address your work ethic and ability to succeed at graduate-level academic work.

- Current professional résumé including experience in the field (paid or voluntary).
- Goal Statement: The goal statement is a key component of the admission review process and serves as an example of the applicant's ability to express himself or herself in writing. The goal statement must be no longer than two pages double spaced (500-800 words) and should address the following:
    - Personal background and career aspirations in urban and regional planning.
    - Reason for pursuing graduate study in urban and regional planning, including future career goals and plans.
    - Specific areas of urban and regional planning of interest to the applicant.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.
- All International students must meet university minimum TOEFL score requirements regardless of language in which the undergraduate program was completed.

Admission to this degree is competitive; applicants meeting the minimum university and/or program application requirements are not guaranteed admission to the program.

All requested material must be submitted by the established deadline date. Materials received after the established deadline may not be considered.

Application Deadlines

Urban and Regional Planning MS	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 15	Nov 1	
International Applicants		Jan 15	Jul 1	
International Transfer Applicants		Mar 1	Sep 1	

CONTACT INFO

Christopher Hawkins PhD
Assistant Professor
Program Director
christopher.hawkins@ucf.edu
407-823-2706
HPA2 233

CERTIFICATE PROGRAMS

Adult-Gerontology Acute Care Nurse Practitioner Graduate Certificate

PROGRAM DESCRIPTION

The curriculum prepares students for both the AGACNP board certification examination administered through the American Nurses Credentialing Center and the Acute Care Nurse Practitioner-Adult-Gerontology certification examination administered through the American Association of Critical Care Nurses.

CURRICULUM

The Adult-Gerontology Acute Care Nurse Practitioner graduate certificate prepares nurses who have already completed their graduate education for entry-level advanced practice in acute care. The program prepares graduates to enter the current healthcare system based on a strong scientific foundation for practice. The curriculum offers flexibility and emphasis on evidence-based practice, leadership and organizational analysis, and provides analytic, critical thinking, and diagnostic reasoning skills to examine practice innovations. The certificate requires 22 credit hours beyond the master's degree.

Total Credit Hours Required:

22 Credit Hours Minimum beyond the Master’s Degree

Prerequisites

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)

Required Courses—22 Credit Hours

- NGR 6210 Adult-Gerontology Acute Care Nurse Practitioner I (3 credit hours)
- NGR 6230L Diagnostics and Skills for the Critically Ill (1 credit, 60 clinical hours)
- NGR 6211 Adult-Gerontology Acute Care Nurse Practitioner II (3 credit hours)
- NGR 6211L Adult-Gerontology Acute Care Nurse Practitioner II Clinical (3 credit hours, 180 clinical hours)
- NGR 6175 Critical Care Pharmacology (3 credit hours)
- NGR 6212 Adult-Gerontology Acute Care Nurse Practitioner III (3 credit hours)
- NGR 6212L Adult-Gerontology Acute Care Nurse Practitioner III Clinical (3 credit hours, 180 clinical hours)
- NGR 6215L Adult-Gerontology Acute Care Nurse Practitioner Practicum (3 credit hours, 180 clinical hours)

APPLICATION REQUIREMENTS

Admission is open to those with MSN Degrees and are licensed as an advanced practice registered nurse, but who are not prepared as Adult-Gerontology Acute Care Nurse Practitioners. In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN and MSN degree from an accredited institution.

- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as an advanced registered nurse practitioner in the State of Florida. (Out of state applicants must be eligible for licensure in Florida and must achieve licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role
    - Describe the path you would take to ensure success in your graduate nursing education
    - Identify one significant contemporary issue of problem in US healthcare and explore how members of the nursing profession can help address that issues or solve that problem.

- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a DNP adviser to discuss your goals for graduate study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for post-master's preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Adult-Gerontology Acute Care Nurse Practitioner Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Sep 15	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Christopher Blackwell PhD
Associate Professor
Program Director
christopher.blackwell@ucf.edu
407-823-2744
UTWR 453

Adult-Gerontology Acute Care Nurse Practitioner

CURRICULUM

The DNP Adult-Gerontology Acute Care Nurse Practitioner track requires a minimum of 75 credit hours beyond the baccalaureate degree. The curriculum includes 41 credits of core courses shared with other DNP tracks, 12 credits of APN core and 22 credits of specialty courses. A total of 1,020 practicum hours are required to earn the DNP. The program prepares nurses at the entry level for advanced practice for the current healthcare system based on a strong scientific foundation for practice; offers flexibility and emphasis on evidence-based practice, leadership and organizational analysis; and provides analytic, critical thinking and diagnostic reasoning skills to examine practice innovations involving completion of the residency project during the clinical residency courses. Details about this program are in the Advanced Practice DNP Handbook.

Total Credit Hours Required:

75 Credit Hours Minimum beyond the Bachelor's Degree

Prerequisite Courses—9 Credit Hours

Students with a bachelor's degree in a discipline other than nursing will be required to take the following courses prior to taking required program courses. Consistent with graduate nursing program policies, courses must be completed with a grade of 'B' or better.

- NUR 3805 Dimensions of Professional Practice (3 credit hours)
- NUR 4637 Public Health Nursing (3 credit hours)
- NUR 3165 Nursing Research (3 credit hours)

Advanced Practice Core Courses—12 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning Lab (1 credit hour)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)

DNP Core Courses—41 Credit Hours

- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5884 Legal and Professional Behavior in Advanced Practice Nursing (3 credit hours)
- NGR 6801 Research Methods for Advanced Practice Nursing (3 credit hours)
- NGR 6874 Nursing Environment Management (3 credit hours)
- NGR 7673 Epidemiology Principles in Advanced Practice Nursing (3 credit hours)
- NGR 7793 Leadership and Economics in Advanced Practice Nursing (3 credit hours)

- NGR 7827 Concepts, Measure and Data Management (3 credit hours)
- NGR 7820 Innovative Technologies in Healthcare (3 credit hours)
- NGR 7892 Healthcare Systems and Policy (3 credit hours)
- NGR 7855C Evidence Based Practice Development (3 credit hours)
- NGR 7065 Advanced Clinical Management (3 credit hours)
- NGR 7748L Advanced Practice Clinical Selective (2 credit hours, 120 clinical hours)
- NGR 7911C DNP Project I (3 credit hours, 60 clinical hours)
- NGR 7912C DNP Project II (3 credit hours, 120 clinical hours)

Specialty Courses: Adult-Gerontology Acute Care Nurse Practitioner—22 Credit Hours

- NGR 6210 Adult-Gerontology Acute Care Nurse Practitioner I (3 credit hours)
- NGR 6230L Diagnostics and Skills for the Critically Ill (1 credit, 60 clinical hours)
- NGR 6211 Adult-Gerontology Acute Care Nurse Practitioner II (3 credit hours)
- NGR 6211L Adult-Gerontology Acute Care Nurse Practitioner II Clinical (3 credit hours, 180 clinical hours)
- NGR 6175 Critical Care Pharmacology (3 credit hours)
- NGR 6212 Adult-Gerontology Acute Care Nurse Practitioner III (3 credit hours)
- NGR 6212L Adult-Gerontology Acute Care Nurse Practitioner III Clinical (3 credit hours, 180 clinical hours)
- NGR 6215L Adult-Gerontology Acute Care Nurse Practitioner Practicum (3 credit hours, 180 clinical hours)

The DNP Project is related to advanced nursing practice and benefits a group, population or community rather than an individual patient. It addresses identified needs and builds on an evidence base. DNP projects may include but are not limited to:

- Translate research into practice and evaluate outcomes
- Quality improvement (care processes, continuity of care, patient outcomes)
- Implement and evaluate evidence-based practice guidelines
- Analyze policy: develop, implement, evaluate or revise policy
- Design and use databases to retrieve information for decision making, planning, evaluation
- Conduct financial analyses to compare care models and potential cost savings, etc.
- Design and evaluate new models of care
- Design and evaluate health promotion and disease prevention programs
- Assess integration of technology in care

The theme that links these forms of scholarly experiences is the use of evidence to improve either practice or patient outcomes. Additional examples of DNP projects can be found on the National Organization of Nurse Practitioner Faculty (NONPF) website under Practice Doctorate Resource Center.

Progress to Degree

Students are required to maintain a 3.0 grade point average. Students who receive a grade below "B" in any course will be reviewed by the DNP Admissions, Progression and Graduation Committee for continuation in the program. Grades of below "B" are not acceptable in the doctoral program in the College of Nursing. Students who do not maintain a 3.0 GPA will be put on probation or dismissed from the program.

Graduation Requirements

- All course work completed with a minimum grade of "B"
- A satisfactory DNP Project
- Clinical performance evaluated at a satisfactory level
- A satisfactory public presentation of the DNP Project

INDEPENDENT LEARNING

A DNP Project will be completed by all students in the DNP program. A scholarly project, derived from clinical practice, will be developed in depth with faculty supervision.

APPLICATION REQUIREMENTS

For information on general UCF graduate admissions requirements that apply to all prospective students, please visit the Admissions section of the Graduate Catalog. Applicants must apply online. All requested materials must be submitted by the established deadline.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN degree from an accredited institution by program start date.*
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as a registered nurse in the State of Florida by program start date. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role
    - Describe the path you would take to ensure success in your graduate nursing education
    - Identify one significant contemporary issue of problem in US healthcare and explore how members of the nursing profession can help address that issues or solve that problem
    - Curriculum Vitae: CV should reflect prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates, this can include accomplishments as a student
- An interview with faculty may also be required.

*For Students with an RN license and a Bachelor's degree in a discipline other than nursing, please contact the College of Nursing Graduate Office at gradnurse@ucf.edu or 407-823-2744 for additional options.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a DNP adviser to discuss your goals for doctoral study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for doctoral-level preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluations of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF programs with the applicant's career goals. The College of Nursing accepts most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Adult-Gerontology Acute Care Nurse Practitioner	Fall Priority	Fall	Spring	Summer
Domestic Applicants	Jan 15	Feb 15		
International Applicants	Jan 15	Jan 15		
International Transfer Applicants	Jan 15	Feb 15		

CONTACT INFO

Christopher Blackwell PhD
Associate Professor
Program Director
christopher.blackwell@ucf.edu
407-823-2744
UTWR 453

Adult-Gerontology Clinical Nurse Specialist Graduate Certificate

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

CURRICULUM

The program is 18 credit hours and includes up to 540 hours of clinical practice. There are 15 credit hours of prerequisite/co-requisite requirements.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Master's Degree

Prerequisites or Co-requisites—15 Credit Hours

Students must demonstrate successful completion of the following courses:

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning (1 credit hour)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 6874 Nursing Environment Management (3 credit hours)

Required Courses—18 Credit Hours

In addition, students must successfully complete all of the following Clinical Nurse Specialist Adult-Gerontology Track courses:

- NGR 6265 Adult/Gerontology CNS I (3 credit hours)
- NGR 6265L Adult/Gerontology CNS I Clinical (3 credit hours, 180 clinical hours)
- NGR 6266 Adult/Gerontology CNS II (3 credit hours)
- NGR 6266L Adult/Gerontology CNS II Clinical (3 credit hours, 180 clinical hours)
- NGR 6267 Adult/Gerontology CNS III (3 credit hours)
- NGR 6267L Adult/Gerontology CNS III Clinical (3 credit hours, 180 clinical hours)

APPLICATION REQUIREMENTS

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN and MSN degree from an accredited institution.
- Undergraduate Statistics course.
- Licensure as a registered nurse in the State of Florida. (Out of state applicants must be eligible for licensure in Florida and must achieve RN licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Describe how your professional experiences have prepared you for future education in the role which is the focus of your desired track.
    - Describe your plans to alter your work, professional and/ or personal obligations in order to have the time needed for graduate course and clinical practice work.
    - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.

CONTACT INFO

Mary Lou Sole PhD
Professor
College Dean
gradnurse@ucf.edu
407-823-5496
UTWR 300

Adult-Gerontology Primary Care Nurse Practitioner Graduate Certificate

PROGRAM DESCRIPTION

Program Objectives

- Analyze social, economic, ethical, cultural, legal and political issues influencing nursing practice and health care in a global context.
- Collaborate with leaders in nursing and other disciplines to improve the quality of professional nursing practice and the health care system.
- Develop and implement leadership, management and teaching strategies for the improvement of health and health care.
- Develop practice models of evidence-based nursing practice incorporating nursing research.
- Influence health and public policy to improve health of communities.
- Participate in lifelong learning activities.
- Participate in research and disseminate research findings through presentation and publication.
- Synthesize advanced knowledge from the sciences, humanities and nursing theories to support advanced nursing practice.
- Plan, evaluate and implement the delivery of health care using critical thinking skills.
- Practice in an advanced nursing role.

CURRICULUM

The program is 18 credit hours and includes up to 660 hours of clinical practice. There are 12 credit hours of prerequisite requirements.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Master's Degree

Prerequisite Courses—12 Credit Hours

Students must demonstrate successful completion of the following courses:

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)

Required Courses—18 Credit Hours

In addition, students must successfully complete all of the following DNP Adult-Gerontology Primary Care Nurse Practitioner Track courses:

- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6201 Adult I Primary Care (3 credit hours)
- NGR 6240L Adult I Primary Care Clinical (3 credit hours, 180 clinical hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)
- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours, 120 clinical hours)
- NGR 6202L Adult NP Primary Care Clinical (2 credit hours, 120 clinical hours)
- NGR 6248L Family Nurse Practitioner/Adult Gero Nurse Practitioner Practice Practicum (3 credit hours, 180 clinical hours)

APPLICATION REQUIREMENTS

Admission is open to those with MSN Degrees and are licensed as an advanced practice registered nurse, but who are not prepared as Adult-Gerontology Primary Care Nurse Practitioners. In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN and MSN degree from an accredited institution.
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as an advanced registered nurse practitioner in the State of Florida. (Out of state applicants must be eligible for licensure in Florida and must achieve licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role.
    - Describe the path you would take to ensure success in your graduate nursing education.
    - Identify one significant contemporary issue or problem in US health care and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a DNP adviser to discuss your goals for graduate study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for post-master's preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Adult-Gerontology Primary Care Nurse Practitioner Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Sep 15	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Josie Weiss
Associate Professor
Program Director
josie.weiss@ucf.edu
407-823-2198
OTC4 454

Advanced Quantitative Methodologies in Educational and Human Sciences Graduate Certificate

PROGRAM DESCRIPTION

The coursework for the Advanced Quantitative Methodologies in Educational and Human Sciences certificate is broad-based enough to be useful for anyone interested in advancing their research and quantitative statistical skills, including students in other UCF colleges and local community service providers (e.g., evaluators, data analysts).

CURRICULUM

The graduate certificate in Advanced Quantitative Methodologies in Educational and Human Sciences requires 12 credit hours of courses selected from a list of approved courses.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Master's Degree

Required Courses—12 Credit Hours

Select four of the following courses.

- EDF 7405 Quantitative Methods II (3 credit hours)
- EDF 7406 Multivariate Statistics in Education (3 credit hours)
- EDF 7410 Application of Nonparametric and Categorical Data Analysis in Education (3 credit hours)
- EDF 7415 Latent Variable Modeling in Education (3 credit hours)
- EDF 7427 Psychometrics (3 credit hours)
- EDF 7474 Multilevel Data Analysis in Education (3 credit hours)
- EDF 7488 Monte Carlo Simulation Research in Education (3 credit hours)

Aging Studies Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Aging Studies is designed to prepare individuals presently employed in the aging field to increase their knowledge of the special needs of our elderly citizens. Graduate students who are enrolled in health sciences, psychology, social work, nursing, communication sciences and disorders, or sociology, as well as in other areas, such as liberal arts, music education, physical education, or art education, will find the certificate valuable. The mission of the aging studies certificate is to prepare individuals from diverse disciplines to address the physiological, psychological, sociological, environmental, cultural, legal-ethical, and public policy dynamics inherent in the lives of older adults.

CURRICULUM

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor’s Degree

Required Course—3 Credit Hours

- GEY 5648 Gerontology: An Interdisciplinary Overview

Elective Courses—12 Credit Hours

Select four courses from the following.

- CLP 5187 Mental Health and Aging (3 credit hours)
- GEY 5600 Physiology of Aging (3 credit hours)

- GEY 5007 Women and Healthy Aging (3 credit hours)
- NGR 5690 Interdisciplinary Care at End-of-Life (3 credit hours)
- PHT 6374C Gerontology in Physical Therapy* (3 credit hours)
- SOW 6938 Interventions with the Elderly and Their Families (3 credit hours)
- SYP 6565 Elder Abuse and Neglect (3 credit hours)

* Physical Therapy majors only

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online.

CONTACT INFO

Shawn Lawrence PhD, LCSW
Associate Professor
Program Director
shawn.lawrence@ucf.edu
407-823-3112
HPA 1 Suite 204

Anatomical Sciences Graduate Certificate

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

CURRICULUM

The graduate certificate in Anatomical Sciences requires 22 credit hours of courses.

Total Credit Hours Required:

22 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—22 Credit Hours

- PHT 6115C Gross Anatomy/Neuroscience I (6 credit hours)
- PHT 6118C Gross Anatomy/Neuroscience II (6 credit hours)
- PHT 6510 Administration of Anatomical Science Laboratory (1 credit hour)
- PHT 6119L Seminar in Anatomical Sciences Techniques (2 credit hours)
- ZOO 5758C Vertebrate Histology (4 credit hours)
- BSC 5665 Clinical Embryology and Congenital Malformations (3 credit hours)

APPLICATION REQUIREMENTS

An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Admission is open to those who have completed a graduate program in Physical Therapy, Occupational Therapy, or other related health or medical science-related discipline. Alternatively, those with a Bachelor's degree from a regionally accredited institution and having earned a GPA of at least 3.5 in the following pre-requisite coursework will be considered:

Pre-requisites

- Anatomy or Anatomy & Physiology (8 credits total with labs)
- Physics (8 credits total with labs)
- Biology (6 credits minimum)
- Chemistry (6 credits minimum)

Application Deadlines

Anatomical Sciences Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Patrick Pabian DPT
Program Director
1074atrick.pabian@ucf
.edu
407-823-3470
HPA 1 256

Applied Operations Research Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Applied Operations Research is designed to prepare individuals with an overview of Operations Research (OR) tools, develop competence in modeling programs and provide practice and hands-on experience. OR models and solution techniques provide a powerful arsenal for solving complex resource allocation and management problems. OR has been used to solve many of the scheduling, distribution, staffing and design problems in industry. As more powerful desktop computers and software become available, the potential to apply OR models and methods to such problems will grow.

CURRICULUM

For the Applied Operations Research certificate, students complete three required courses and one elective course, for a total of 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)

Elective Course—3 Credit Hours

Choose one of the following three courses.

- ESI 6336 Queuing Systems (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)
- ESI 6418 Linear Programming and Extensions (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution in industrial engineering or a closely-related discipline. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Applied Operations Research Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	

International Applicants				
International Transfer Applicants				

CONTACT INFO

Ahmad Elshennawy PhD
Professor
Program Director
ahmade@ucf.edu
407-823-2204
Engineering 2, Room 312

Autism Spectrum Disorders Graduate Certificate

PROGRAM DESCRIPTION

The program is composed of four graduate courses that can be incorporated into a master's program of study in Exceptional Student Education or taken as an add-on to an undergraduate or graduate degree. Each course includes a field-based component. Students may complete field-based assignments in their own classrooms or schools if they serve students with ASD. There are also opportunities to complete these assignments at Project ASD demonstration sites. This program is approved by the Florida Department of Education as meeting requirements for State Endorsement in Autism (Administrative Rule 6A-4.01796).

CURRICULUM

For the Autism Spectrum Disorders graduate certificate, students complete 12 credit hours of required courses.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- EEX 6246 Nature of Autism: Theory and Educational Practice* (3 credit hours)
- SPA 6437 Communication Foundations and Assistive/Instructional Technology for Communication (3 credit hours)
- EEX 6297 Assessment, Diagnosis, and Curriculum Prescriptions for Students with Autism* (3 credit hours)
- EEX 6612 Methods of Behavioral Management (3 credit hours)

*As per Graduate Certificate Program Policies, students may substitute electives as approved by the program director if they have already taken EEX 6297 and EEX 6246 in the Severe or Profound Disabilities Certificate.

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Autism Spectrum Disorders Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Nov 15	Apr 1
International Applicants				
International Transfer Applicants				

CONTACT INFO

Eleazar Vasquez
Program Director
eleazar.vasquez@ucf.edu
407-823-2898

ED 315 F

Career Counseling Graduate Certificate

PROGRAM DESCRIPTION

The certificate requires the completion of three graduate courses addressing foundations, theories, assessment, techniques, and applications of career counseling and development. SDS 6937 Career Development and SDS 6622 Career and College Readiness in Schools PK-12 are both prerequisites for the final clinical course, SDS 6308 Applied Practice in Career Services. The fourth course is a graduate-level specialization elective in a specific academic discipline that can be taken at any point within the career certificate program.

CURRICULUM

The Graduate Certificate in Career Counseling requires 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- SDS 6347 Career Development (3 credit hours)
- SDS 6622 Career and College Readiness in Schools PK-12 (3 credit hours)
- SDS 6308 Applied Practice in Career Services (3 credit hours)

Elective Course—3 Credit Hours

Students may choose to specialize in a specific academic discipline or tailor their own areas of concentration.

- EDH 6635 Organization and Administration of Higher Education (3 credit hours)
- MHS 6020 Mental Health Care Systems (3 credit hours)
- MAN 6305 Human Resource Management (3 credit hours)
- SDS 6620 Coordination of Comprehensive Professional School Counseling Programs (3 credit hours)
- SOW 5305 Social Work Practice I: Generalist Practice (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.Admission to the program is competitive on a space-available basis.

Application Deadlines

Career Counseling Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Stacy VanHorn PhD
Program Director
counsel@ucf.edu
407-823-2401
ED 322M

Clinical Nurse Leader Graduate Certificate

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

CURRICULUM

The Clinical Nurse Leader certificate curriculum consists of advanced clinical courses as well as advanced clinical nursing leadership. The program requires 12 credit hours. There are 18 credit hours of prerequisite/corequisite requirements.Students gain 480 hours of clinical practice. Each 1 credit hour clinical course requires 60 hours of supervised clinical experience. The Internship/Residency requires 300 clinical hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Master's Degree

Prerequisite/Corequisite Courses—18 Credit Hours

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment Clinical (1 credit hour)
- NGR 5141 Pathophysiological Bases for APN (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 6172 Pharmacology (3 credit hours)
- NGR 6722 Financial Management and Resource Utilization (3 credit hours)

Required Courses—12 Credit Hours

- NGR 6105 Management of Symptoms and Outcome (3 credit hours)
- NGR 6773L CNL Residency (3 credit hours, 300 clinical hours)
- NGR 6775L CNL Resources and Outcomes (1 credit hour, 60 clinical hours)
- NGR 6777L CNL Quality and Safety (1 credit hour, 60 clinical hours)
- NGR 6776L CNL Advocacy and Education (1 credit hour, 60 clinical hours)
- NGR 6874 Nursing Environment Management (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a master's degree in nursing from a program accredited by NLNAC (National League for Nursing Accreditation Commission) or CCNE (Commission on Collegiate Nursing Education), licensure as a Registered Nurse in Florida and completion of an undergraduate health assessment course. Please submit all requested material by the established deadline(s). Applicants must apply online.

CONTACT INFO

Mary Lou Sole PhD
Professor
College Dean
gradnurse@ucf.edu
407-823-5496
UTWR 300

Cognitive Sciences Graduate Certificate

PROGRAM DESCRIPTION

The interdisciplinary program is founded on the belief that cognition is a complex range of phenomena that cannot be well understood from any single disciplinary perspective. Thus, the program includes core interdisciplinary courses on the Cognitive Sciences, as well as drawing from related courses from many areas including Communication Sciences and Disorders, Education, Engineering and Computer Science, Linguistics, Neuroscience, Philosophy and Psychology.

The Graduate Certificate in Cognitive Sciences is designed for students from diverse backgrounds who wish to: (i) deepen and broaden knowledge gained in a related bachelor's degree, (ii) prepare for master's or PhD programs in the cognitive sciences, or (iii) complement current study in UCF graduate programs related to the cognitive sciences.

CURRICULUM

The Cognitive Sciences Graduate Certificate requires 18 credit hours of courses, including 6 required courses and 12 elective courses selected from the approved list.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

The program recommends that students complete these courses in the first year of the certificate.

- PHI 5327 Topics in the Cognitive Sciences (3 credit hours)
- PHI 5340 Research Methods in the Cognitive Sciences (3 credit hours)

Elective Courses—12 Credit Hours

Core Courses—9 Credit Hours

Choose at least 9 credit hours of elective courses from at least three of the following four Core Areas.

Language and Communication

- COM 6046 Interpersonal Communication (3 credit hours)
- LIN 5137 Linguistics (3 credit hours)
- LIN 6932 Problems in Linguistics (3 credit hours)
- SPA 6410 Aphasia and Related Disorders (3 credit hours)
- SPA 6417 Cognitive/Communicative Disorders (3 credit hours)
- TSL 6252 Sociolinguistics for ESOL (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)

Artificial Intelligence and Modeling Cognition

- CAP 5636 Advanced Artificial Intelligence (3 credit hours)
- CAP 6640 Computer Understanding of Natural Language (3 credit hours)
- CAP 6671 Intelligent Systems: Robots, Agents, and Humans (3 credit hours)

- EEL 6876 Current Topics in Artificial Intelligence (3 credit hours)
- EEL 6878 Modeling and Artificial Intelligence (3 credit hours)
- EEL 6812 Introduction to Neural Networks (3 credit hours)
- EEL 6875 Autonomous Agents (3 credit hours)

Philosophy

- PHI 5225 Philosophy of Language (3 credit hours)
- PHI 5325 Topics in Philosophy of Mind (3 credit hours)
- PHI 5328 Philosophies of Embodiment (3 credit hours)
- PHI 5329 Philosophy of Neuroscience (3 credit hours)

Psychology and Neuroscience

- DEP 5057 Developmental Psychology (3 credit hours)
- EXP 5208 Sensation and Perception (3 credit hours)
- EXP 5256 Human Factors I (3 credit hours)
- EXP 6255 Human Performance (3 credit hours)
- EXP 6506 Human Cognition and Learning (3 credit hours)
- PSB 5005 Physiological Psychology (3 credit hours)
- ZOO 5745C Essentials of Neuroanatomy (4 credit hours)
- ZOO 5748C Clinical Neuroanatomy (5 credit hours)
- ZOO 5749C Clinical Neuroscience (5 credit hours)

Restricted Elective Courses—3 Credit Hours

Choose up to one elective course either from the above Core Areas or from the following list:

- CAP 5415 Computer Vision (3 credit hours)
- CAP 5610 Machine Learning (3 credit hours)
- CAP 6676 Knowledge Representation (3 credit hours)
- COM 6467 Studies in Persuasion (3 credit hours)
- EDF 6141 Human Intelligence (3 credit hours)
- EEL 5874 Expert Systems and Knowledge Engineering (3 credit hours)
- EGI 6305 Theory and Development of Creativity (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)
- EME 6646 Learning, Instructional Design, and Cognitive Neuroscience (3 credit hours)
- ENC 6740 Topics in Rhetoric and Composition (3 credit hours) NOTE: Where topic is appropriate; topic should be cleared in advance with the Cognitive Sciences Certificate program director.
- EXP 6257 Human Factors II (3 credit hours)
- EXP 6541 Advanced Human-Computer Interaction (3 credit hours)
- INP 5825 Human-Computer Interface (HCI) Design: A Team Approach (3 credit hours)
- IDS 6504 Adult Learning (3 credit hours)
- IDS 7657 Professional Collaboration Around Language Issues (3 credit hours)
- SOP 5059 Advanced Social Psychology (3 credit hours)
- SPA 6437 Communication Foundations and Assistive/Instructional Technology for Communication (3 credit hours)

NOTE: It is the policy of the College of Graduate Studies not to allow course substitutions for graduate certificate programs. All elective courses listed above have been approved for inclusion by the chair or director of the relevant program. However, it is the student's responsibility to ensure that all course prerequisites are met. Students without the appropriate prerequisites to courses will need to contact the instructor to inquire about the possibility of registration.

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.Admission to the program is competitive on a space-available basis. Final admission is based on evaluation of the applicant's abilities, past performance and the applicant's potential for completing the certificate.

Application Deadlines

Cognitive Sciences Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 30	Nov 15	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Mason Cash PhD
Associate Professor
Program Director
mason.cash@ucf.edu
407-823-6857
PSY 0246

Community College Education Graduate Certificate

PROGRAM DESCRIPTION

The certificate consists of five graduate courses that cover all facets of community college education. The courses are available completely online in a web-based format.

CURRICULUM

For the Community College Education graduate certificate, students take 15 credit hours of required courses.

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

- EDH 6053 The Community College in America (3 credit hours)
- EDH 6081 Contemporary Problems in Community Colleges (3 credit hours)
- EDH 6204 Community College Organization, Administration, and Supervision (3 credit hours)
- EDH 6215 Community College Curriculum (3 credit hours)
- EDH 6305 Teaching and Learning in the Community College (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Community College Education Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Thomas Cox EdD
Program Director
thomas.cox@ucf.edu
ED 220Q

Computer Forensics Graduate Certificate

PROGRAM DESCRIPTION

The National Center for Forensic Science (NCFS), the School of Electrical Engineering and Computer Science, and the Department of Chemistry jointly sponsor an interdisciplinary Graduate Certificate in Computer Forensics. This web-assisted certificate program provides a unique opportunity for graduate training to professionals and paraprofessionals who deal directly or indirectly with digital evidence, including law enforcement investigators, forensic laboratory analysts, lawyers and judges, and corporate computer security specialists. In addition, the Interdisciplinary Studies Program offers a Master of Science degree in Interdisciplinary Studies with a concentration in Computer Forensics, and the recently approved Master of Science degree in Digital Forensics provides further graduate work in digital forensics.

CURRICULUM

The Computer Forensics certificate requires four graduate courses (12 credit hours) in forensics study.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- CHS 5504 Topics in Forensic Science (3 credit hours)
- CHS 5518 The Forensic Collection and Examination of Digital Evidence (3 credit hours) or CHS 5596 The Forensic Expert in the Courtroom (3 credit hours)
- CGS 5131 Computer Forensics I: Seizure and Examination of Computer Systems (3 credit hours)
- CNT 6418 Computer Forensics II: Network Security, Intrusion Detection, and Forensic Analysis (3 credit hours)

Note: A graduate-level digital evidence course approved by the graduate program director may be used to substitute for CGS 5131 or CNT 6418.

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. Please be sure to submit all requested material by the established deadline(s).

Admission to the program is competitive on a space-available basis. Final admission is based on evaluation of the applicant's abilities, past performance and the applicant's potential for completing the certificate. Students interested in the Out of State Cohort/Track, must contact the program director, Sheau-Dong Lang, PhD, prior to applying.

Application Deadlines

Computer Forensics Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Cliff Zou PhD
Associate Professor
Program Director
CZou@cs.ucf.edu
407-823-5015
HEC 243

Conservation Biology Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Conservation Biology emphasizes basic and applied conservation biology. The certificate offers an excellent opportunity for cross-discipline training that provides conservation theory in a classroom setting and valuable field work in the laboratory portions of the Biology courses. The Department of Biology provides basic courses on campus, while scientists at Walt Disney World's Animal Kingdom offer applied courses on Disney property. Practical experience dealing with small animal populations is provided within Disney's unique zoological setting.

CURRICULUM

The Conservation Biology certificate requires four graduate courses (12 credit hours) in conservation study.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

Students should take two courses from Group A, one course from Group B, and the course from Group C.

Group A

- BSC 5332 Invasion Biology (3 credit hours)
- PCB 5045 Conservation Biology (4 credit hours)
- PCB 5935 Population Genetics (3 credit hours)
- PCB 6053C Restoration Ecology (4 credit hours)
- PCB 6328C Landscape Ecology (4 credit hours)
- PCB 6480C Quantitative Conservation Biology (4 credit hours)
- PCB 6556 Conservation Genetics (3 credit hours)
- ZOO 6520 Behavioral Ecology (3 credit hours)

Group B

- BOT 6623C Plant Ecology (4 credit hours)
- BSC 5824 Biogeography (4 credit hours)
- ENY 5006C Entomology (4 credit hours)
- PCB 5326C Ecosystems of Florida (5 credit hours)
- PCB 5435C Marine Ecology of Florida (4 credit hours)
- PCB 6035C Wetland Ecology (4 credit hours)
- ZOO 5456C Ichthyology (4 credit hours)
- ZOO 5463C Herpetology (4 credit hours)
- ZOO 5475L Field Ornithology (3 credit hours)
- ZOO 5486 Mammalogy (4 credit hours)

Group C

- PAZ 5235 Zoo and Aquarium Biology and Management (3 credit hours)

INDEPENDENT LEARNING

Graduate students enrolled in the Graduate Certificate in Conservation Biology are expected to engage in independent learning throughout their enrollment. Independent learning is a key component of all of the courses approved for inclusion in this certificate, where emphasis is placed on the development of analytical skills and critical thinking. In addition, depending upon their career goals, other experiences such as directed readings, additional research projects, or internships may be undertaken by the students.

Corporate Communication Graduate Certificate

PROGRAM DESCRIPTION

The curriculum includes courses in crisis public relations, theories of public relations and electives designed to enhance students' communication skills in corporate environments.

CURRICULUM

The program is composed of three required graduate courses and three elective courses that can be incorporated into a master's program of study in Mass or Interpersonal Communication or taken as an add-on to another graduate degree. The required and elective courses are drawn from a limited list of courses that reflect current professional development needs for corporate communication. Students must enroll in COM 6008 in the first semester.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- COM 6008 Proseminar in Communication (3 credit hours)
- PUR 6005 Theories of Public Relations (3 credit hours)
- PUR 6403 Crisis Public Relations (3 credit hours)

Electives—9 Credit Hours

- ADV 6209 Advertising and Society (3 credit hours)
- COM 5932 Topics in Communication (3 credit hours)
- COM 6025 Health Communication (3 credit hours)
- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- COM 6121 Communication Management (3 credit hours)
- COM 6145 Organizational Communication (3 credit hours)
- COM 6303 Qualitative Research Methods in Communication (3 credit hours)
- COM 6304 Quantitative Research Methods in Communication (3 credit hours)
- COM 6467 Studies in Persuasion (3 credit hours)
- COM 6468 Communication and Conflict (3 credit hours)
- COM 6525 Communication Strategy and Planning (3 credit hours)
- COM 6815 Risk Communication (3 credit hours)
- MMC 6202 Legal and Ethical Issues for Communication (3 credit hours)
- MMC 6266 Communications Convergence and Media Planning (3 credit hours)
- MMC 6307 International Communication (3 credit hours)
- MMC 6402 Mass Communication Theory (3 credit hours)
- MMC 6407 Visual Communication Theory (3 credit hours)
- MMC 6567 Seminar in New Media (3 credit hours)
- MMC 6600 Media Effects and Audience Analysis (3 credit hours)

- MMC 6735 Social Media as Mass Communication (3 credit hours)
- PUR 6215 Communicating Corporate Social Responsibility (3 credit hours)
- PUR 6405 Communication and Public Relations in Politics and Government (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Please submit all requested material by the established deadline(s). Applicants must apply online.

The Corporate Communication Certificate Program does not admit students in the summer semester. Admission to and successful completion of the Corporate Communication Certificate Program does not guarantee admission to the Communication MA program as additional requirements exist for the master's program.

Application Deadlines

Corporate Communication Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 1	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Harry Weger PhD
Associate Professor
Program Director
harry.weger@ucf.edu
407-823-2859
NSC 252

Corrections Leadership Graduate Certificate

PROGRAM DESCRIPTION

Corrections Leadership is a rapidly growing area of criminal justice. Private, state and federal agencies are seeking qualified managers and leaders to meet the changing needs of the twenty-first century. Leaders of correctional facilities and programs should be prepared to meet the challenges of changing policies and effectively deal with the management of budgets, grants, cooperative agreements and other inter-governmental projects.

CURRICULUM

The Corrections Leadership certificate program consists of two required courses and two elective courses for a total of 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

- CJC 5020 Foundations of Corrections (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)

Elective Courses—6 Credit Hours

Choose two of the following courses.

- CCJ 6051 Community Justice (3 credit hours)
- CCJ 6106 Policy Analysis in Criminal Justice (3 credit hours)
- CCJ 6335 Criminal Justice Sentencing and Punishment Policy (3 credit hours)

- CCJ 6431 Leadership and Ethics in Criminal Justice (3 credit hours)
- CCJ 6730 Planned Change and Innovation in Criminal Justice (3 credit hours)
- CCJ 6118 Criminal Justice Organizations (3 credit hours)
- CCJ 5015 The Nature of Crime (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
    - This course has a prerequisite of PAD 6700. Contact the School of Public Administration for a possible override.
- SOW 6712 Interventions with Substance Abusers (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Corrections Leadership Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Elexis Ritz
Program Staff
elexis.ritz@ucf.edu
407-823-6093
HPA 311

Crime Analysis Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Crime Analysis provides information for data-driven management, investigative support and general crime analysis. The certificate addresses the needs of traditional criminal justice graduate students and nontraditional criminal justice practitioners. Theoretical aspects of crime pattern analysis are combined with practical applications to understand the development of data-driven crime prevention strategies. Crime pattern recognition and examination are emphasized.

Students learn to synthesize theory and application in order to produce the knowledge base necessary to fully utilize available technologies to develop and perform complex crime analysis and mapping; perform advanced spatial analyses of crime; and understand the essentials of creating customized crime analysis and mapping applications that are agency-specific.

CURRICULUM

The Crime Analysis Graduate Certificate consists of four required courses.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

This sequence of courses can only be started in the Fall semester, with the courses taken in the order listed below:

- CCJ 6073 Data Management Systems for Crime Analysis (3 credit hours) – *Fall semester*
- CCJ 6079 Crime Mapping and Analysis in Criminal Justice (3 credit hours) – *Spring semester*
- CCJ 6077 Advanced Crime Mapping and Analysis in Criminal Justice (3 credit hours) – *Summer semester*
- CCJ 6717 Criminal Justice Theories of Crime Analysis and Prevention (3 credit hours) – *Fall semester (may be taken first or last fall)*

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Crime Analysis Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		
International Applicants				
International Transfer Applicants				

CONTACT INFO

Elexis Ritz
Program Staff
elexis.ritz@ucf.edu
407-823-6093
HPA 311

Criminal Justice Executive Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Criminal Justice Executive prepares criminal justice professionals for contemporary executive roles within their organizations in the areas of self-awareness, operations, logistics, human capital, vision and current industry trends. This certificate is designed to develop innovative executives who care about people and results and who are preparing themselves and their agencies for the challenges of tomorrow. This certificate assists executives in developing the competencies and skills to successfully adapt to new and unforeseen realities.

This certificate program is only available to students in the Valencia College Public Safety Leadership Development Certification Program (PSLDCP).

CURRICULUM

The Criminal Justice Executive certificate program consists of three required courses and one elective course for a total of 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- CJE 6120 Personnel Management in Criminal Justice Organizations (3 credit hours)

- CCJ 6489 Professionalism in Criminal Justice Organizations (3 credit hours)
- CCJ 5931 Contemporary Criminal Justice Strategies (3 credit hours)

Elective Course—3 Credit Hours

Students select one of the following courses.

- CCJ 5456 The Administration of Justice (3 credit hours)
- CCJ 5931 Contemporary Criminal Justice Strategies* (3 credit hours)
- CCJ 6118 Criminal Justice Organizations (3 credit hours)

*CCJ 5931 can be taken twice in this certificate program as the content of the course changes for each offering.

Design for Usability Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Design for Usability introduces students to the methods of user-centered design and usability engineering tools that can be used to assess and assure usability throughout a product, service or system development cycle. Students in the certificate program learn how to design products that are both ergonomically sound and user-friendly, how to plan and conduct usability tests, analyze related data, and how to use the results to improve the design of a product, service or system.

CURRICULUM

For the Design for Usability certificate, students complete four required courses, for a total of 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- EIN 5248C Ergonomics (3 credit hours)
- EIN 5251 Usability Engineering (3 credit hours) or EIN 6370 Innovation in Engineering Design (3 credit hours)
- EIN 6258 Human Computer Interaction (3 credit hours) or EIN 5255C Interactive Simulation (3 credit hours)
- ESI 6247 Experimental Design and Taguchi Methods (3 credit hours)

Destination Marketing and Management Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Destination Marketing and Management provides knowledge and information that facilitates the effective marketing and management of tourist destinations. The certificate covers the strategies for creating integrated destination marketing and management systems, critically reviews those issues and techniques of international tourism management with a particular focus on the economic, socio-cultural and environmental impacts of tourist development at destinations, and analyzes the quantitative impact of tourism as an industry both within and beyond tourist destinations.

Students learn to synthesize theory and application at the graduate level in order to produce the knowledge base necessary to fully utilize available techniques and strategies for the effective marketing and management of tourist destinations. Students successfully completing this certificate may already be in destination marketing or management positions or seeking such roles in this exciting and growing field.

CURRICULUM

The Destination Marketing and Management Graduate Certificate is comprised of three required three-credit courses, nine credits in total.

Total Credit Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

There is no specific course sequence in that a number of sections of each course are available throughout the year with students able to commence in the Fall, Spring or Summer semester.

- HMG 6710 International Tourism Management (3 credit hours)
- HMG 6566 Principles of Destination Marketing and Management (3 credit hours)
- HMG 6738 Tourism Industry Analysis (3 credit hours)

APPLICATION REQUIREMENTS

Materials received after the established deadline may not be considered. Admission to this certificate is competitive; applicants meeting the minimum application requirements are not guaranteed admission to the program.

In addition to to the above application requirements, all applicants to this certificate program will be required to submit:

- A current resume.
- An academic goal statement
- The GRE/GMAT is not required, however, the Admissions Committee may ask for the GRE/GMAT to strengthen a candidate's application package.

These documents must be attached to the application. While there is no set word limit, the goal statement should address the applicant's interest in pursuing the certificate program and fully discuss any experience that he or she has had in the field. A minimum of 2 years of full-time post-undergraduate work experience is required for admission.

Application Deadlines

Destination Marketing and Management Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Alan Fyall PhD
Professor
Program Director
alan.fyall@ucf.edu
407-903-8808
CLI 271

e-Learning Professional Development Graduate Certificate

PROGRAM DESCRIPTION

The e-Learning Professional Development certificate focuses on teaching the design, delivery and evaluation of high-quality e-learning materials for inservice, preservice teacher and online trainers.

CURRICULUM

For the Graduate Certificate in e-Learning Professional Development, students complete 15 credit hours of required courses. For the recommended plan of study, noting when each course is offered, refer to the Instructional Technology program website under **Plans of Study** for graduate certificates.

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

- EME 6613 Instructional System Design (3 credit hours)
- EME 6507 Multimedia in Education and Training (3 credit hours)
- EME 6457 Distance Education: Technology Process Product (3 credit hours)
- EME 6417 Interactive Online and Virtual Teaching Environments (3 credit hours)
- EME 6458 Virtual Teaching and the Digital Educator (3 credit hours)

*EME 6417 (spring) must be taken before EME 6458 (summer).

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline. This certificate program admits in fall and spring semesters only—there is no summer semester admission.

Application Deadlines

e-Learning Professional Development Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Glenda Gunter PhD
Associate Professor
Program Director
glenda.gunter@ucf.edu
ED 322P

Education Undecided or Certification

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

APPLICATION REQUIREMENTS

In addition to completing the online application, Education Undecided/Certification applicants will need to submit official, final transcripts from a regionally accredited institution showing a conferred bachelor's degree.

Education Undecided/Certification students will also be required to submit an Immunization Form prior to enrollment. Although this form is not used in the admission process, students will not be allowed to enroll at UCF without submitting the required Immunization Form.

Application Deadlines

Education Undecided or Certification	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Cameron Leonard
Graduate Studies
gradadmissions@ucf.edu
407-823-2766
Millican Hall 230

Emergency Management and Homeland Security Graduate Certificate

PROGRAM DESCRIPTION

This graduate certificate in Emergency Management and Homeland Security provides intensive interdisciplinary graduate education for working professionals engaged in or seeking professional careers in emergency management and homeland security.

The curriculum focuses on managing security threats and crises, natural and man-made treats, disasters, or emergencies through the coordination of public, private and nonprofit sectors. In addition to covering the National Planning Frameworks and recent trends in policy and practice in this field, the program will focus on the Florida emergency management and public safety systems. Courses are held in the evenings and taught by experienced faculty members and professionals.

CURRICULUM

The certificate in Emergency Management and Homeland Security consists of 18 credit hours at the graduate level, including four required core courses and two electives (one from a planning emphasis and one from management/policy). The EMHS graduate certificate program is a face-to-face program; some courses are offered on-line, however, students admitted to the EMHS program are expected to attend each course in person face-to-face. Each face-to-face course is offered one night a week for three hours, on the main campus.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

All students must take the following courses.

- PAD 6399 Foundations of Emergency Management and Homeland Security (3 credit hours)
- PAD 6397 Managing Emergencies and Crises (3 credit hours)
- PAD 6716 Information Systems for Public Managers and Planners (3 credit hours)
- PAD 6825 Cross-Sectoral Governance (3 credit hours)

Elective Courses—6 Credit Hours

Restricted—6 Credit Hours

- Select one course from Group 1
- Select one course from Group 2

Group 1—Planning Emphasis

- PAD 5336 Introduction to Urban Planning (3 credit hours)
- PAD 5338 Land Use and Planning Law (3 credit hours)
- PAD 5356 Managing Community and Economic Development (3 credit hours)
- PAD 6353 Environmental Planning and Policy (3 credit hours)
- CGN 6655 Regional Planning, Design, and Development (3 credit hours)
- PUR 6403 Crisis Public Relations (3 credit hours)
- PAD 6946 Internship (Internship must show a planning emphasis. If an internship is completed as a group 1 elective, a second internship cannot be completed as a group 2 elective. Current or previous employment cannot be applied toward the internship.)

Group 2—Management and Policy Emphasis

- PAD 5850 Grant and Contract Management
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6037 Public Organizations Management (3 credit hours)
- PAD 6387 Transportation Policy (3 credit hours)
- CCJ 6027 Criminal Justice Responses to Terrorism (3 credit hours)
- HSA 5198 Health Care Decision Sciences and Knowledge Management (3 credit hours)
- INR 6136 Seminar in American Security Policy (3 credit hours)
- PAD 6946 Internship (Internship must show a management and policy emphasis. If an internship is completed as a group 2 elective, a second internship cannot be completed as a group 1 elective. Current or previous employment cannot be applied toward the internship.)

APPLICATION REQUIREMENTS

All applicants to this certificate program will be required to submit:

- One official transcript (in a sealed envelope) from each college/university attended.
- Current professional résumé including experience in the field (paid or voluntary).
- Goal Statement: The goal statement is a key component of the admission review process and serves as an example of the applicant's ability to express himself or herself in writing. The goal statement must be no

longer than two pages double spaced (500-800 words) and should address the following:

- Personal background and career aspirations in emergency management.
- Reason for pursuing graduate study in emergency management, including your future career goals and plans.
- Specific areas of emergency management that interests you.

These documents must be attached to the application. All applications must be submitted by the established deadline date. Applications received after the established deadline may not be considered. Students are expected to be computer literate and have computer internet access upon entry to the program. Admission to this program is competitive; applicants meeting the minimum admission requirements are not guaranteed admission to this program.

Application Deadlines

Emergency Management and Homeland Security Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Claire Knox PhD
Assistant Professor
Program Director
Claire.Knox@ucf.edu
407-823-0153
HPA2 235

Entrepreneurship Graduate Certificate

PROGRAM DESCRIPTION

Students in the Graduate Certificate in Entrepreneurship will learn how to recognize opportunities, formulate solutions, design business models, and deliver results. These skills are essential to starting new businesses and are valued by small and large organizations seeking employees who can create and lead innovative new initiatives.

CURRICULUM

Total Credit Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- ENT 5016 New Venture Design (3 credit hours) - Required
- ENT 5206 New Venture Implementation (3 credit hours) - Required
- ENT 6617 Innovation and Entrepreneurship Strategy (3 credit hours) or ENT 5185 Technological Entrepreneurship (3 credit hours)

APPLICATION REQUIREMENTS

Application Deadlines

Entrepreneurship Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Cameron Ford PhD
Associate Professor
Program Director
cbagrad@bus.ucf.edu
407-823-3700
Business Administration 345

ESOL Endorsement K-12 Graduate Certificate

PROGRAM DESCRIPTION

Teaching K-12 requires a primary teaching certification. The ESOL K-12 is an endorsement that is added onto an existing teaching certification. This endorsement, therefore, is for certified teachers or students currently seeking certification with the State of Florida only.

The number of nonnative students in the K-12 setting in the state of Florida as well as in most states is rapidly increasing. These students represent an array of different languages and cultural backgrounds. With these changes in K-12 schools comes more demand for qualified teachers who have the necessary knowledge and skills to work with English for Speakers of Other Languages (ESOL) students.

The ESOL Endorsement K-12 Graduate Certificate provides students with specialized knowledge and training in the five endorsement areas required for teachers in the state of Florida. The certificate focuses on the five areas required by the state of Florida to teach in a K-12 setting: applied linguistics, curriculum, testing, methodology and cross-cultural awareness. Successful completion of the certificate meets the requirements for the state of Florida add-on endorsement for ESOL K-12.

CURRICULUM

No course substitutions are allowed. Upon successful completion, students will need to complete separate paperwork with the state of Florida for official recognition of this endorsement.

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

- TSL 5345 Methods of ESOL Teaching (3 credit hours); or, for students admitted to the Speech and Language Pathology program, TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- TSL 5525 ESOL Cultural Diversity or EDF 6886 Multicultural Education (3 credit hours)
- TSL 6142 Critical Approaches to ESOL (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)
- TSL 6440 Problems in Evaluation in ESOL (3 credit hours); or, for students admitted to the Speech and Language Pathology program, SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)

INDEPENDENT LEARNING

TSL 5525, TSL 5345, and TSL 6250 require students to work with one or more nonnative speakers. TSL 6250 requires students to transcribe data elicited from a nonnative speaker.

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance and the applicant's potential for completing the certificate.

Application Deadlines

ESOL Endorsement K-12 Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 1	Dec 1	Apr 1
International Applicants				
International Transfer Applicants				

CONTACT INFO

Joyce Nutta PhD
Associate Professor
Program Director
joyce.nutta@ucf.edu
407-823-4341
ED 122M

Ethics Graduate Certificate, Theoretical and Applied

PROGRAM DESCRIPTION

This interdisciplinary graduate certificate focuses on specific topics of ethical inquiry in philosophy, humanities, the arts, sciences, health care, business, education, criminal justice, public administration, public relations, journalism, politics and other areas.

CURRICULUM

Students may choose to specialize in some specific academic discipline or tailor their own areas of concentration.

All elective courses have been approved for inclusion by the chair or director of the relevant program. However, students without the appropriate prerequisites to courses will need to obtain the consent of the instructor to enroll.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

- PHI 5627 Theoretical and Applied Ethics (3 credit hours)
- PHI 5665 Knowledge, Responsibility and Society (3 credit hours)

Elective Courses—6 Credit Hours

- ACG 6835 Ethics and Professionalism in Accounting and Auditing (3 credit hours)
- BUL 6444 Law and Ethics (3 credit hours)
- CJE 5021 Foundations of Law Enforcement (3 credit hours)
- CJC 5020 Foundations of Corrections (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)
- CCJ 6485 Issues in Justice Policy (3 credit hours)
- CCJ 6431 Leadership and Ethics in Criminal Justice (3 credit hours)
- CLP 6932 Ethical and Professional Issues in Mental Health Practice (3 credit hours)
- MHS 6702 Ethical and Legal Issues (3 credit hours)
- MMC 6202 Legal and Ethical Issues for Communication (3 credit hours)
- ADV 6209 Advertising and Society (3 credit hours)
- PAD 5041 Ethics and Values in Public Administration (3 credit hours)
- PHI 5687 Ethics in Science and Technology (3 credit hours)
- PHI 6679 Digital Ethics (3 credit hours)
- PHM 5035 Environmental Philosophy (3 credit hours)
- POT 6007 Seminar in Political Theory (3 credit hours)
- SPS 6931 Ethical and Legal Issues in School Psychological Services (3 credit hours)
- WST 5347 Research Seminar in Gender Studies (3 credit hours)

* NGR courses are restricted to graduate students in nursing.

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.Relevant experience with theoretical and applied ethics through course work at the undergraduate or graduate level or through professional experience working with ethical issues will be evaluated by the graduate program director together with the certificate committee comprised of faculty from the participating departments. Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance and the applicant's potential for completing the certificate.

Application Deadlines

Ethics Graduate Certificate, Theoretical and Applied	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 30	Nov 15	Mar 30
International Applicants				
International Transfer Applicants				

CONTACT INFO

Jonathan Beever PhD
Program Director
jonathan.beever@ucf.edu
407-823-4340
PSY 238

Event Management Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Event Management provides knowledge and information that facilitates the effective organization and management of events in the public, private and third sector contexts. The certificate covers the administration of events (i.e., promotion, budgeting, marketing, production, legal issues, customer service, ticketing and concession), the selling and marketing of conventions and conferences, and the organization and administration of mega-events. Events are such an integral component of many industries today that although with a strong focus on tourism and hospitality, the certificate incorporates a number of perspectives with event legacies being a particularly pertinent issue for all coursework.

Students learn to synthesize theory and application at the graduate level in order to produce the knowledge base necessary to fully utilize available techniques and strategies for the effective organization, marketing and management of events, conventions and conferences. Students successfully completing this certificate may already be in event management positions or seeking such roles in the public, private or third sectors.

CURRICULUM

The Event Management Graduate Certificate is comprised of three required three-credit courses, nine credits in total.

Total Credit Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

There is no specific course sequence in that a number of sections of each course are offered every year with students able to commence in the Fall, Spring or Summer semester.

- HMG 6797 Event Administration (3 credit hours)
- HMG 6528 Convention and Conference Sales and Service (3 credit hours)
- HMG 6756 Mega Events (3 credit hours)

APPLICATION REQUIREMENTS

Materials received after the established deadline may not be considered. Admission to this certificate is competitive; applicants meeting the minimum application requirements are not guaranteed admission to the program.

In addition to to the above application requirements, all applicants to this certificate program will be required to submit:

- A current resume.
- An academic goal statement.
- The GRE/GMAT is not required, however, the Admissions Committee may ask for the GRE/GMAT to strengthen a candidate's application package.

These documents must be attached to the application. While there is no set word limit, the goal statement should address the applicant's interest in pursuing the certificate program and fully discuss any experience that he or she has had in the field. A minimum of 2 years of full-time post-undergraduate work experience is required for admission.

Application Deadlines

Event Management Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Alan Fyall PhD
Professor
Program Director
alan.fyall@ucf.edu
407-903-8808
CLI 271

Family Nurse Practitioner Graduate Certificate

PROGRAM DESCRIPTION

Program Objectives

- Analyze social, economic, ethical, cultural, legal and political issues influencing nursing practice and health care in a global context.
- Collaborate with leaders in nursing and other disciplines to improve the quality of professional nursing practice and the health care system.
- Develop and implement leadership, management and teaching strategies for the improvement of health and health care.
- Develop practice models of evidence-based nursing practice incorporating nursing research.
- Influence health and public policy to improve health of communities.
- Participate in lifelong learning activities.
- Participate in research and disseminate research findings through presentation and publication.
- Synthesize advanced knowledge from the sciences, humanities and nursing theories to support advanced nursing practice.
- Plan, evaluate and implement the delivery of health care using critical thinking skills.
- Practice in an advanced nursing role.

CURRICULUM

The certificate program is 22 credit hours and includes up to 720 hours of clinical practice. There are 12 credit hours of prerequisite requirements.

Total Credit Hours Required:

22 Credit Hours Minimum beyond the Master's Degree

Prerequisites—12 Credit Hours

Students must demonstrate successful completion of the following courses:

- NGR 5003 Advanced Health Assessment and Diagnostic Reasoning (2 credit hours)
- NGR 5003L Advanced Health Assessment and Diagnostic Reasoning (1 credit hour; 60 clinical hours)
- NGR 5141 Pathophysiological Bases for Advanced Nursing Practice (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 6172 Pharmacology for Advanced Nursing Practice (3 credit hours)

Required Courses—22 Credit Hours

In addition, students must successfully complete all of the following DNP Family Nurse Practitioner Track courses:

- NGR 6334 Women's Health for APNs (2 credit hours)
- NGR 6201 Adult I Primary Care (3 credit hours)

- NGR 6240L Adult I Primary Care Clinical (3 credit hours; 180 clinical hours)
- NGR 6263 Gerontologic Care for APNs (3 credit hours)
- NGR 6263L Gerontologic Care Clinical for NPs (2 credit hours; 120 clinical hours)
- NGR 6305 Pediatric Primary Care (3 credit hours)
- NGR 6305L Pediatric Primary Care Clinical (2 credit hours; 120 clinical hours)
- NGR 6342L Women's Health for Advanced Practice Nurses Clinical (1 credit hour; 60 clinical hours)
- NGR 6248L Family Nurse Practitioner/Adult Gerontology Nurse Practitioner Practice Practicum (3 credit hours; 180 clinical hours)

APPLICATION REQUIREMENTS

Admission is open to those with MSN Degrees and are licensed as an advanced practice registered nurse, but who are not prepared as Family Nurse Practitioners. In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- BSN and MSN degree from an accredited institution.
- Undergraduate Statistics course.
- Official, competitive GRE score taken within the last five years.
- Licensure as an advanced registered nurse practitioner in the State of Florida. (Out of state applicants must be eligible for licensure in Florida and must achieve licensure to begin clinical courses.)
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role.
    - Describe the path you would take to ensure success in your graduate nursing education.
    - Identify one significant contemporary issue or problem in US health care and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications, and activities with professional organizations. For recent graduates this can include accomplishments as a student.
- An interview with faculty may also be required.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with a DNP adviser to discuss your goals for graduate study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for post-master's preparation for advanced nursing practice.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Family Nurse Practitioner Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants			Sep 15	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Josie Weiss
Associate Professor
Program Director
josie.weiss@ucf.edu
407-823-2198
OTC4 454

Fundraising Graduate Certificate

PROGRAM DESCRIPTION

Credits earned in the certificate program may be applied toward the Master of Nonprofit Management (MNM) degree. However, admission to the MNM degree program has separate requirements from those of the certificate program and students considering continuing into the master's degree should familiarize themselves with credit transfer policy and should consult with a faculty adviser early in their certificate program. The Graduate Certificate in Fundraising requires that students complete 18 credit hours. Students must maintain at least a 3.0 grade point average in order to be awarded the Graduate Certificate. The Certificate must be completed within 3 years.

CURRICULUM

The Graduate Certificate in Fundraising program is a completely online; some courses may be offered face-to-face, however students in this program are expected to have the ability to complete the coursework online. The program requires a minimum of 18 credit hours beyond the bachelor’s degree; consisting of 15 credit hours of core courses and 3 credit hours of a restricted elective.

The Certificate program incorporates service learning in some of its courses. Service learning involves students partnering with a local nonprofit organization of their choice offer technical assistance in a specific area of operation that is covered in their coursework. Service Learning enhances the students' academic experience and presents opportunities for networking. The process is supervised by the instructor and provides benefits to both the organization and the student.

Some of the courses may also involve group work intended to develop leadership abilities while providing an opportunity for the student to show his or her ability to be a team player. Group projects promote important intellectual and social skills and help to prepare students for professional work where teamwork and collaboration are necessary.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- PAD 5146 Nonprofit Resource Development (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6237 Ethics and Governance in Nonprofit Management (3 credit hours)
- PAD 6235 Fundraising as a Profession (3 credit hours)

Elective Courses—6 Credit Hours

Select two courses from the following lists.

Online Electives

- PAD 5850 Grants and Contract Management (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)

Face-to-Face Electives

- PAD 6236 Philanthropy and Society (3 credit hours)
- PAD 6946 Internship (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. Applicants must apply online. Students must submit all required material by the established deadline. Materials received after the established deadline may not be considered. Admission to this certificate is competitive; applicants meeting the minimum application requirements are not guaranteed admission to the program.

In addition to the general UCF graduate application requirements, applicants to this program must provide:

- An official transcript in a sealed envelope from each college/university attended.
- A current, professional résumé.
- Statement of Goals: This is a key component of the admission review process and serves as an example of the applicant's ability to express him or herself in writing. The goal statement must be no longer than two pages and should address the following:
    - What is your reason for pursuing graduate study in Fundraising, including your future goals and plans?
    - What specific areas of Fundraising interest you?
    - Work and/or Voluntary experience (fundraising or nonprofit experience is preferred, not required)
- Applicants who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Fundraising Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Stephanie Krick PhD
Program Director
stephanie.krick@ucf.edu
407-823-0661
HPAII, Room 234

Gender Studies Graduate Certificate

PROGRAM DESCRIPTION

The Gender Studies certificate includes courses from both the humanities and the social sciences. The program is open to both degree-seeking and nondegree-seeking graduate students. Most courses are offered at times that will accommodate part-time and working students. Students should consult with the instructor, since entry to some graduate courses is restricted by registration codes from the department.

CURRICULUM

The Graduate Certificate in Gender Studies includes courses from both the humanities and the social sciences. Entry to CLP 6459C, ENG 6814 Gender in Texts and Technology and SOW 5625 may be restricted. Consult with the instructor.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

- WST 5601 Theories in Gender Studies (3 credit hours)
- WST 5347 Research in Women and Gender Studies (3 credit hours)

Elective Courses—6 Credit Hours

- AMH 5566 Colloquium: Women in American History (3 credit hours)
- ARH 5897 Advanced Seminar in Art History: Contemporary Women Artists (3 credit hours)
- CLP 6459C Human Sexuality, Marriage, and Sex Therapies (3 credit hours)
- ENC 6332 Gendered Rhetoric (3 credit hours)
- ENG 6078 Contemporary Movements in Literary, Cultural, and Textual Theory (as applicable)** (3 credit hours)
- ENG 6074 Historical Movements in Literary, Cultural, and Textual Studies (as applicable)** (3 credit hours)
- ENG 6814 Gender in Texts and Technology (3 credit hours)
- LIT 6097 Studies in Contemporary Fiction** (3 credit hours)
- LIT 6216 Issues in Literary Study (as applicable)** (3 credit hours)
- LIT 6936 Studies in Literary, Cultural, and Textual Theory (as applicable)** (3 credit hours)
- PUP 6324 Women and Public Policy (3 credit hours)
- SYD 6809 Seminar in Gender Issues (3 credit hours)
- SYP 5566 Seminar on Domestic Violence (3 credit hours)
- SYP 6563 Reactions to Domestic Violence (3 credit hours)
- SYP 6561 Child Abuse in Society* (3 credit hours)
- SYP 6565 Elder Abuse and Neglect* (3 credit hours)

- ACG 6519 Governmental and Nonprofit Accounting (3 credit hours)
- CCJ 6067 Perspectives on Genocide (3 credit hours)
- CCJ 6366 Criminal Justice Responses to Domestic Violence (3 credit hours)
- COM 6047 Interpersonal Support in the Workplace (3 credit hours)
- COM 6468 Communication and Conflict (3 credit hours)
- CPO 6058 Revolution and Political Violence (3 credit hours)
- CPO 6067 Comparative Courts (3 credit hours)
- ENC 5237 Writing for the Business Professional (3 credit hours)
- GEB 6115 Entrepreneurship (3 credit hours)
- GEY 5007 Women and Health Aging (3 credit hours)
- HMG 6797 Event Administration (3 credit hours)
- HIS 6068 Seminar in Documentary Editing and New Media (3 credit hours)
- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- WST 5619 Applied Gender Studies (3 credit hours)

* Students may include only one of these courses (marked with an asterisk) toward meeting the certificate requirements.

** Students must seek the approval of the Director of Women's and Gender Studies, which is based on the review of course syllabi, for these courses (marked with a double asterisk).

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance and the applicant's potential for completing the certificate.

Application Deadlines

Gender Studies Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

M.C. Santana PhD
Program Director
407-823-2269
CNH 114

Geographic Information Systems Graduate Certificate

PROGRAM DESCRIPTION

GIS and geospatial analyses allow students and researchers to see old problems in new ways making connections by overlaying digital maps and examining spatial networks and processes.

CURRICULUM

The Geographic Information Systems (GIS) Graduate Certificate requires a total of 12 credit hours of courses in the required competency areas of design, modeling, analysis and visualization. To a certain extent, students may tailor their courses to focus on their broad disciplinary area of study.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

Students should take one course from Group A, one course from Group B, and two courses from Group C. It is recommended that students take Group C courses after taking Group A and B courses. Other courses related to Geospatial Science can be used to satisfy the Group C requirement, if the specific course is approved by the Graduate Certificate faculty.

Group A - First Core Course

- ANG 5852 GIS Methods in Anthropology (3 credit hours)
- ANG 6181C GIS Applications in Anthropology (3 credit hours)
- CCJ 6079 Crime Mapping and Analysis in Criminal Justice (3 credit hours)
- PAD 6716 Information Systems for Public Managers and Planners (3 credit hours)
- POS 6743 Geographic Tools for Political Science Research (3 credit hours)
- SYA 6938 ST: Geographic Information Systems in Society (3 credit hours)

Group B - Second Core Course

- ANG 5853 Advanced GIS Methods in Anthropology (3 credit hours)
- CCJ 6077 Advanced Crime Mapping and Analysis in Criminal Justice (3 credit hours)
- SYA 6452 GIS Applications (3 credit hours)

Group C - Electives

- BSC 5824 Biogeography (3 credit hours)
- CAP 6121 3D User Interfaces for Games and Virtual Reality (3 credit hours)
- CCJ 6073 Data Management Systems for Crime Analysis (3 credit hours)
- CCJ 7725 The Geography of Crime: Theory and Methods (3 credit hours)
- CWR 5634 Water Resources in a Changing Environment (3 credit hours)
- CWR 6126 Groundwater Modeling (3 credit hours)
- CWR 6535 Modeling Water Resources Systems (3 credit hours)
- EEL 5432 Satellite Remote Sensing (3 credit hours)
- EEL 5820 Image Processing (3 credit hours)
- ENG 6808 Narrative Information Visualization (3 credit hours)
- ENV 6047 Environmental Informatics and Remote Sensing (3 credit hours)
- HIS 5925 History in the Digital Age (3 credit hours)
- HIS 6165 Digital Tools for Historians (3 credit hours)
- HUM 5396 Place and Space (3 credit hours)
- PCB 6328C Landscape Ecology (4 credit hours)
- TTE 6938 ST: Geographic Information Systems Applications for Transportation (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Applicants must submit an essay that describes their background and interests in relation to their desire to obtain the GIS certificate. Applicants must also provide GRE scores (verbal and quantitative) taken within the last five years.

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance, recommendations, match of this program and faculty expertise to the applicant's career/ academic goals, the applicant's potential for completing the certificate and openings in the program.

Application Deadlines

Geographic Information Systems Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		July 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

John Walker PhD
Associate Professor
Program Director
john.walker@ucf.edu
407-823-3798
PO Box 161361

Gifted Education Graduate Certificate

PROGRAM DESCRIPTION

Completion of the Gifted Education Certificate leads to an endorsement to the Florida Teaching Certificate in Gifted Education. The coursework presents research-based best practices that examine a broadened conception of giftedness, a comprehensive system of identification and a continuum of services for meeting the differential learning and developmental needs of diverse populations of gifted students.

The course work for the graduate certificate is based on the Teacher Preparation Standards in Gifted Education set by NAGC/CEC (National Association for Gifted Children and the Council for Exceptional Children). There are two levels possible within the coursework: the regular certificate level applicable to all teachers and professionals seeking specialist knowledge in gifted education; and the Advanced level that includes the Advanced Standards in Gifted Education Teacher Training applicable to those seeking higher levels of research who may already have wide experience in working with advanced, gifted and talented learners. Strategies that model best practices of pre-assessment, curriculum compacting, differentiated and independent learning, extended curriculum, and creative productivity are infused in this program.

CURRICULUM

For the Graduate Certificate in Gifted Education, students complete 15 credit hours of required courses.

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

- EGI 6051 Understanding the Gifted/Talented Student (3 credit hours)
- EGI 6245 Curriculum and Instruction for Advanced, Gifted and Talented Learners (3 credit hours)
- EGI 6246 Education of Special Populations of Gifted Students (3 credit hours)
- EGI 6417 Counseling and Guidance Strategies for Teachers of Gifted and Talented Individuals (3 credit hours)

- EGI 6305 Theory and Development of Creativity (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Gifted Education Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Gillian Eriksson PhD
Program Director
Gillian.Eriksson@ucf.edu
407-823-6493
Education 223M

Global Health and Public Affairs Graduate Certificate

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

CURRICULUM

The Global Health and Public Affairs graduate certificate consists of two required courses and two elective courses for a total of 12 credit hours. One Study Abroad course is encouraged. Students should consult with an adviser to determine if certificate courses may be used as electives toward their degree program.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

- PAF 6720 Graduate Seminar in Global Health and Public Affairs Research (3 credit hours, required regardless of concentration)

For the second required course, choose one of the following courses:

- CJL 5049 International Perspectives on Law and Justice (6 credit hours)
- HSA 6112 International Health Systems (3 credit hours)
- PAD 6836 Comparative Global Public Administration (3 credit hours)

Elective Courses—6 Credit Hours

Choose two courses (6 credit hours) from one of the following concentrations.

Global Public Affairs Concentration

- CJL 5049 International Perspectives on Law and Justice (6 credit hours)
- CCJ 5931 Contemporary Criminal Justice Strategies (3 credit hours)
- CCJ 6067 Perspectives on Genocide (3 credit hours)
- CCJ 6675 Human Rights and Criminal Justice (3 credit hours)
- PAD 6836 Comparative Global Public Administration (3 credit hours)

- XXX 5957/6958 Study Abroad (Study abroad from College of Health and Public Affairs, College of Nursing or College of Medicine)

Global Health Concentration

- SPA 6474 Assessment and Management of Culturally and Linguistically Diverse Populations (3 credit hours)
- HSA 6112 International Health Systems (3 credit hours)
- HSC 6607 Lifestyle Medicine (3 credit hours)
- PHC 6003 Epidemiology of Chronic Diseases (3 credit hours)
- PHC 6411 Health and Society (3 credit hours)
- SOW 5132 Diverse Client Populations (3 credit hours)
- SOW 6109 Violence Against Women: A Global Perspective (3 credit hours)
- NGR 5894C International Perspectives of Global Health (3 credit hours)
- XXX 5957/6958 Study Abroad (Study abroad from College of Health and Public Affairs, College of Nursing or College of Medicine)

Global, International and Comparative Education Graduate Certificate

PROGRAM DESCRIPTION

The certificate is comprised of five graduate courses addressing the theoretical, methodological, critical and practical issues associated with education around the world, through both macro and micro cultural perspectives.

CURRICULUM

Students in the Graduate Certificate in Global, International and Comparative Education program must complete five courses (15 credit hours total), four required courses and one elective. Courses may be taken out of sequence.

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- EDF 6809 Introduction to Comparative and International Education (3 credit hours)
- SSE 5391 Global Education: Theory and Practice (3 credit hours)
- EDF 6855 Equitable Educational Opportunity and Life Chances: A Cross-National Analysis (3 credit hours)
- EDS 6365 Education and National Development (3 credit hours)

Elective Courses—3 Credit Hours

Choose one elective course from the list below.

- EDG 6775 Exploring Global Educational Issues in International Contexts (3 credit hours)
- EEC 6606 Global Issues in Early Childhood (3 credit hours)
- Other graduate courses with Program Coordinator's approval

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Global, International and Comparative Education Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Karen Biraimah PhD
Program Director
karen.biraimah@ucf.edu
407-823-2428
ED 209B

Health Care Simulation Graduate Certificate

PROGRAM DESCRIPTION

Program Objectives

- Analyze social, economic, ethical cultural legal and political issues influence nursing and health practice in a global context
- Collaborate with leaders in nursing and other disciplines to improve the quality of profession health care practice and the outcomes of care
- Develop and implement innovative applications for simulation experiences in health care
- Evaluate models of delivery of simulation in education and health care settings in terms of effectiveness
- Evaluate the cost benefit of the use of simulation in health care and education

CURRICULUM

The certificate program requires three courses, for a total of 9 credit hours.

Total Credit Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- NGR 6717 Introduction to Healthcare Simulation (3 credit hours)
- NGR 6794 Organizational Leadership and Operations in Healthcare Simulation (3 credit hours)
- NGR 6978 Healthcare Simulation Capstone Project (3 credit hours)

Students may take the following course as an additional, optional course:

- NGR 6771L Healthcare Simulation Practicum (1-3 credit hours)

APPLICATION REQUIREMENTS

Admission to the program is competitive on a space-available basis. In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Describe how your professional experiences have prepared you for future education in the role in nursing or healthcare simulation
    - Describe the path you would take to ensure success in your graduate nursing education

    - Identify one significant contemporary issue/ problem in the US Health care system and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications and activities with professional organizations. For recent graduates this can include accomplishments as a student.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with an adviser to discuss your goals for graduate study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for post-master's preparation for nursing education.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Health Care Simulation Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Feb 15	Sep 15	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Mndi Anderson PhD
Associate Professor
Program Director
mindi.anderson@ucf.edu
407-823-1956
UTWR 455

Health Information Administration Graduate Certificate

PROGRAM DESCRIPTION

The Department of Health Management and Informatics offers a Health Information Administration Graduate Certificate program that requires 20 credit hours of graduate coursework. This program is designed to meet the growing demand for highly trained health care information management professionals.

Admission is only open to graduates of the UCF MS in Health Care Informatics or students currently admitted to the UCF MS in Health Care Informatics program. Prerequisites in Anatomy and Physiology I and II are required for current students and graduates of the MS-HCI degree program before enrolling in the graduate certificate program.

The Health Information Administration graduate certificate program is offered online in a distance-learning cohort format for easy access and convenience by working professionals. Applications and admissions are accepted twice per year for fall and spring terms, beginning no earlier than the second year of the student's Healthcare Informatics MS program (that is, fall of the student's second year of MS study).

The successful completion of the Health Care Informatics MS and Health Information Administration Graduate Certificate programs enables students to sit for the RHIA (Registered Healthcare Information Administrator) certification examination.

CURRICULUM

The Graduate Certificate in Health Information Administration requires 20 credit hours of graduate study in addition to enrollment in the MS in Health Care Informatics program. Courses are offered online as a cohort program with all students completing two courses per semester. All students must take the courses in the prescribed sequence. Visit the program website (see above) for the program cohort schedule.

Total Credit Hours Required:

20 Credit Hours Minimum beyond the Master's Degree

Prerequisites

The following prerequisites are required for consideration of admission to the graduate certificate program:

- Anatomy and Physiology I and II

Required Courses—20 Credit Hours

- HIM 6293 Health Care Coding and Diagnosis (ICD-10) (4 credit hours)
- HAS 6189 Health Care Procedural Coding and Reimbursement (4 credit hours)
- HAS 6752 Health Care Analytics (4 credit hours)
- HSA 6759 Outcomes Management (4 credit hours)
- HSA 6179 Financial Accounting for Health Care Managers (4 credit hours)

Cost Per Credit Hour

For the Graduate Certificate in Health Information Administration program, the cost per credit hour is $772.69.*

*Fee is subject to change

Initial Teacher Professional Preparation Graduate Certificate

PROGRAM DESCRIPTION

The Initial Teacher Professional Preparation certificate prepares candidates to meet the State of Florida Department of Education requirements through a sequence of professional core courses. The goal of the certificate is to enable educators to have successful teaching experiences in grades 6-12 classrooms. Students may enroll in the Initial Teacher Professional Preparation certificate and apply to be accepted to the Teacher Education MAT program either concurrently or after earning the certificate.

CURRICULUM

For the Initial Teacher Professional Preparation graduate certificate, students complete six courses (18 credit hours total), including five required courses (15 credit hours) and at least one special methods course (3 credit hours).

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

All of the required courses are available online and must be taken at UCF.

- EDF 6727 Critical Analysis of Social, Ethical, Legal and Safety Issues Related to Education (3 credit hours)
- EDF 6237 Principles of Learning and Introduction to Classroom Assessment (3 credit hours)
- EDG 6415 Principles of Instruction and Classroom Management (3 credit hours)
- RED 5147 Developmental Reading (3 credit hours) or LAE 5496 Disciplinary Literacy in the Content Areas (3 credit hours)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)

Co-requisite—3 Credit Hours Minimum

Special Methods: Course selection depends on the student's intended certification area. Equivalent courses from other accredited Florida State Institutions may be used to satisfy this requirement at the discretion of the Program Director. Students are advised to obtain permission in advance of registering for these courses.

- Art Education: ARE 5359 Teaching Art K-12 (4 credit hours)
- English Language Arts: LAE 5346 Methods of Teaching English Language Arts (3 credit hours)
- Math Education (Grades 5-9): MAE 5327 Teaching Middle School Mathematics (3 credit hours)
- Math Education (Grades 6-12): MAE 5336 Current Methods in Secondary School Mathematics (3 credit hours)
- Music Education: MUE 5348C K-12 Music Methods (4 credit hours)
- Science Education (Grades 5-9): SCE 5325 Teaching Middle School Science (3 credit hours)
- Science Education (Grades 6-12): SCE 5337 Issues and Methods in Secondary School Science Education (3 credit hours)

- Social Science Education: SSE 5790 Inquiry and Instructional Analysis in Social Science Education (3 credit hours)
- Business Education: BTE 6935 Seminar in Business Education (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Initial Teacher Professional Preparation Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Lindsay Archambault
Program Staff
Lindsay.Archambault@ucf.edu
407-823-2881
Education 206F

Instructional Design for Simulations Graduate Certificate

PROGRAM DESCRIPTION

Training and educational programs are now incorporating stand-alone and PC-based simulations and instructional (video) games to enhance human motivation and performance. The result has been a growing demand for simulation and game-based training and instructional systems in corporate, government and education sectors. The Graduate Certificate in Instructional Design for Simulations provides an interdisciplinary approach to prepare educators, instructional designers, and human resource and training specialists in corporate, industry and educational settings to work with engineers, graphic artists, computer programmers and game developers to design training and instructional systems, focusing on the pedagogical aspects of stand-alone and PC-based desktop training and educational simulations and games.

CURRICULUM

For the Instructional Design for Simulations certificate, students complete five required courses (15 credit hours total). The recommended plan of study, noting when each course is offered, is provided on the Instructional Technology program website under **Plans of Study** for professional certificates.

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

- EME 6613 Instructional System Design (3 credit hours)
- DIG 6432 Transmedia Story Creation (3 credit hours)
- IDS 5142 Modeling and Simulation for Instructional Design (3 credit hours) or IDS 6147 Perspectives on Modeling and Simulation (3 credit hours)
- EME 6601 Instructional Simulation Design for Training and Education (3 credit hours)
- EME 6614 Instructional Game Design for Training and Education (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Instructional Design for Simulations Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Atsusi Hirumi PhD
Associate Professor
Program Director
hirumi@ucf.edu
ED 320-F

Instructional Design Graduate Certificate

PROGRAM DESCRIPTION

The certificate provides an opportunity for study and professional training and development of the design and development skills necessary to become an instructional designer in varied fields. The certificate requires substantial independent thinking and emphasis is placed on the cultivation of scholarly attitudes and methods.

CURRICULUM

All courses are taught online and many will also be offered on a flexible schedule at the Orlando campus. The Instructional Design graduate certificate requires five courses (15 credit hours total).

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor’s Degree

Required Courses—15 Credit Hours

- EME 6613 Instructional System Design (3 credit hours)
- EME 6226 Instructional Development and Evaluation (3 credit hours)
- EME 6607 Planned Change in Instructional Technology (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6705 Administration of Instructional Systems (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Instructional Design Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Richard Hartshorne PhD
Associate Professor
Program Director
1114ichard.hartshorne@ucf
.edu
407-823-1861
ED 223-H

Instructional / Educational Technology Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Instructional/Educational Technology provides an opportunity for study and professional training and development of the leadership skills necessary to become educational technology specialists in K-12 schools. The certificate requires substantial independent thinking and emphasis is placed on the cultivation of scholarly attitudes and methods, while assisting students in meeting the requirements for the State of Florida Teacher Certification. In addition, students will learn the subject matter needed to meet the National Educational Technology Standards for Teachers developed by the International Society for Technology in Education (ISTE), which is being adopted by the National Council for Accreditation of Teacher Education (NCATE).

CURRICULUM

Several courses are taught online and other courses will be offered on a flexible schedule at the Orlando campus. The Instructional/ Educational Technology certificate requires five courses (15 credit hours total).

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

- EME 6417 Interactive Online and Virtual Teaching Environments (3 credit hours) or EME 6226 Instructional Development and Evaluation (3 credit hours) or EME 6209 Multimedia Instructional Systems II (3 credit hours)
- EME 6053 Teaching and Learning with Emerging Technologies (3 credit hours)
- EME 6405 Adapting and Integrating Innovative Technologies in Education (3 credit hours)
- EME 6507 Multimedia for Education and Training (3 credit hours)
- EME 6602 Integration of Technology into the Learning Environments (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

This certificate program admits in fall and spring semesters only--there is no summer semester admission.

Application Deadlines

Instructional / Educational Technology Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Richard Hartshorne PhD
Associate Professor
Program Director
richard.hartshorne@ucf.edu
407-823-1861
ED 223-H

Intelligence and National Security Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Intelligence and National Security provides an interdisciplinary graduate education for people engaged in or seeking professional careers in intelligence policy with a focus on analysis of security threats or crises, both domestic and international, through use of human, electronic and public domain intelligence sources. In addition, students will be introduced to various analytic approaches including game theory, network analysis, nonintrusive measurement, geospatial approaches and quantitative analysis.

Graduates are prepared to perform "key functions including conducting research and gathering information, identifying intelligence gaps, interpreting and evaluating information from multiple (and sometimes contradictory) sources, monitoring trends and events related to a particular country or issue, and preparing written and oral assessments." This expectation comes from the job description for an intelligence analyst established by the federal government at www.intelligence.gov/careers-in-intelligence/analysis.html.

CURRICULUM

The certificate in Intelligence and National Security consists of 18 credit hours at the graduate level, including two required core courses and four electives.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

All students must take the following courses.

Take **one** of these three courses:

- POS 6736 Conduct of Political Inquiry (3 credit hours)
- POS 6746 Quantitative Methods in Political Research (3 credit hours)
- CCJ 6704 Research Methods in Criminal Justice (3 credit hours)

Take **one** of these two courses:

- INR 6365 Seminar on Intelligence (3 credit hours)
- INR 6366 The Intelligence Community (3 credit hours)

Restricted Elective Courses—12 Credit Hours

All students take **four** of the following courses. Students can substitute up to two geographic area courses as part of their four-course elective area with approval of the certificate program director.

- POS 6743 Geographic Tools for Political Science Research (3 credit hours)
- INR 6726 Political Behavior in International Conflict (3 credit hours)
- CPO 6058 Revolution and Political Violence (3 credit hours)
- INR 6068 Politics of Civil Wars (3 credit hours)
- INR 6096 International Drug Policy (3 credit hours)
- INR 6108 Seminar in American Foreign Policy (3 credit hours)
- INR 6136 Seminar in American Security Policy (3 credit hours)
- INR 6137 Terrorism and Politics (3 credit hours)
- CCJ 6027 Criminal Justice Responses to Terrorism (3 credit hours)
- CCJ 6067 Perspectives on Genocide (3 credit hours)
- CCJ 6074 Investigative and Intelligence Analysis: Theory and Methods (3 credit hours)
- CJE 6688 Cyber Crime and Criminal Justice (3 credit hours)
- INR 6365 Seminar on Intelligence (3 credit hours) or INR 6366 The Intelligence Community (3 credit hours)
- INR 6346 Politics of International Terrorism (3 credit hours)

Intervention Specialist Graduate Certificate

PROGRAM DESCRIPTION

This certificate will provide an advanced, multi-disciplinary theoretical approach and applied knowledge base to experienced educators.

Coursework focuses on knowledge, skills and competencies for working with students within an intervention framework. The Intervention Specialist certificate is multi-disciplinary and includes coursework in exceptional student education, school psychology, reading education, and math education. The graduate courses provide an opportunity for students to complete the Intervention Specialist certificate beyond the undergraduate degree. Should a student wish to earn a master's degree, the courses in the certificate could be applied into one of several Master of Education degree programs in the College of Education and Human Performance.

CURRICULUM

The Intervention Specialist certificate requires four courses (12 credit hours total).

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- EEX 6218 Diagnostic Assessment and Intervention Planning in Exceptional Education (3 credit hours)
- MAE 6517 Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours)
- SPS 6700 Advanced Psychoeducation and Data-Based Decision Making (3 credit hours)

APPLICATION REQUIREMENTS

Applicants to this program must also provide:

- One letter of recommendation.
- Goal statement.
- Résumé/vita reflecting relevant experience.

Application Deadlines

Intervention Specialist Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Nov 15	Apr 1
International Applicants				
International Transfer Applicants				

CONTACT INFO

Mary Little PhD
Program Director
mary.little@ucf.edu
407-823-3275
ED 315J

Juvenile Justice Leadership Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Juvenile Justice Leadership is designed to provide a theoretical and practical knowledge base for juvenile justice executives in the areas of criminal justice, public administration and social work. The juvenile justice system, long understaffed, is facing the continuing problem of increased juvenile crime, high levels of juvenile drug and substance abuse, and debatable programs to rehabilitate delinquent children. Juvenile Justice Leadership is one of the fastest growing career fields in Criminal Justice.

CURRICULUM

The curriculum for the Juvenile Justice Leadership certificate program consists of two required courses and two elective courses for a total of 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

- CJJ 6020 The Juvenile Justice System (3 credit hours)
- CCJ 6118 Criminal Justice Organizations (3 credit hours)

Elective Course—6 Credit Hours

Choose two of the following courses.

- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 6073 Data Management Systems for Crime Analysis (offered fall term only) (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CJL 6568 Law and Social Order (3 credit hours)
- CCJ 6106 Policy Analysis in Criminal Justice (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)
- SOW 6712 Interventions with Substance Abusers (3 credit hours)
- SOW 6655 Child Abuse: Treatment and Prevention (3 credit hours)
- SYP 6561 Child Abuse in Society (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Juvenile Justice Leadership Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Elexis Ritz
Program Staff
elexis.ritz@ucf.edu
407-823-6093
HPA 311

K-8 Mathematics and Science Education Graduate Certificate

PROGRAM DESCRIPTION

The K-8 Mathematics and Science Education Graduate Certificate is for teachers with at least three years of experience who instruct students in mathematics or science in grade levels K-8. The program is designed to improve the quality of teaching and learning in mathematics and science in grades K-8. Graduates of the K-8 Mathematics and Science program form a strong infrastructure of teachers focusing on long-term impact in schools while helping students succeed in mathematics and science classrooms.

The K-8 Mathematics and Science Education certificate is dedicated to providing all graduates with exceptional pedagogical and subject matter knowledge and skills by focusing on research-based, state-of-the-art best practices in elementary and middle school mathematics and science education.

Other K-8 Mathematics and Science Programs

A Master of Education in K-8 Mathematics and Science Education is available, and the described graduate certificate can be transferred in its entirety into the master's program.

The K-8 Mathematics and Science Education master's program is closely allied with both the EdD and PhD in Education programs. Graduates of the K-8 Mathematics and Science master's program have been very successful in completing advanced graduate degrees.

CURRICULUM

The K-8 Mathematics and Science Education certificate requires four courses (12 credit hours total), including three required courses (9 credit hours) and one elective course (3 credit hours).

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)
- MAE 6318 Current Methods in Elementary School Mathematics (3 credit hours) or MAE 6337 Teaching Algebra in the Secondary School (3 credit hours)
- IDS 6937 Teaching Mathematics and Science Using Reform-based Practices (3 credit hours)

Elective Courses—3 Credit Hours

Choose one of the following courses:

- SCE 5836 Space and Physical Science for Educators (3 credit hours)
- ISC 6146 Environmental Education for Educators (3 credit hours)

Marriage, Couple, and Family Therapy Graduate Certificate

PROGRAM DESCRIPTION

The certificate requires the completion of five graduate courses addressing family systems, working with couples and family therapy theory, and counseling techniques. For many counselors, this certificate will fulfill the academic requirements for Florida licensure as a marriage and family therapist. Applicants should contact the State Licensure Board to verify the courses they need.

As part of the program's pragmatic approach to preparing counselors, in addition to classroom studies, all students complete clinical experiences in the UCF Community Counseling and Research Center and field-based experiences in the community. The UCF Community Counseling and Research Center serves as a hub for training and research in the program, with graduate students providing annual services to over 1,400 individuals, couples, and families in the central Florida community.

Master's students in the School of Social Work can also obtain the Graduate Certificate in Marriage, Couple and Family Therapy by taking the required courses for Social Work students, which include content about family theory and assessment and counseling with families as well as a field component. Information about the Social Work courses and field courses can be obtained through the School of Social Work.

CURRICULUM

The Graduate Certificate in Marriage, Couple and Family Therapy requires 15 credit hours. The Practicum in Counselor Education (MHS 6803) and the Counseling Internship (MHS 6830) must be taken in separate semesters. Among the total hours accumulated in these clinical experiences, at least 180 hours of direct client contact must be dedicated to work with couples, families, and unmarried dyads. For Social Work students, the certificate requires 17 credit hours, enrollment in either the part-time or full-time Clinical Field Seminar is acceptable, and all course work is specific to Social Work.

Total Credit Hours Required:

15-17 Credit Hours Minimum beyond the Bachelor’s Degree

Required Courses—15 Credit Hours

- MHS 6430 Family Counseling I (3 credit hours)
- MHS 6431 Family Counseling II (3 credit hours)
- MHS 6440 Couples Counseling (3 credit hours)
- MHS 6803 Practicum in Counselor Education (3 credit hours)
- MHS 6830 Counseling Internship (3 credit hours)

Required Courses for Social Work Students—17 Credit Hours

- SOW 5106 Human Behavior and Social Environment II: Social Systems (3 credit hours)
- SOW 6612 Clinical Practice with Families (3 credit hours)
- SOW 6531 Full-time Clinical Field Seminar I (4 credit hours)**
- SOW 6536 Full-time Clinical Field Seminar II (4 credit hours)**

- MHS 6440 Couples Counseling (College of Education) (3 credit hours)

**For this certificate program, the following part-time clinical courses meet the 8 hour field seminar sequence:

- SOW 6561 Part-time Clinical Field Seminar (3 credit hours)
- SOW 6562 Part-time Clinical Field Seminar (2 credit hours)
- SOW 6563 Part-time Clinical Field Seminar (3 credit hours)

Mathematical Science Graduate Certificate

PROGRAM DESCRIPTION

All required courses will be offered to accommodate distance learning by posting recorded lectures and offering scheduled online problem sessions and office hours.

CURRICULUM

The Mathematical Science certificate requires six graduate courses (18 credit hours), including 9 credit hours of required courses and 9 credit hours of elective courses.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

Students choose three of the following courses.

- MAA 5210 Topics in Advanced Calculus (3 credit hours)
- MAS 5145 Advanced Linear Algebra and Matrix Theory (3 credit hours)
- MTG 5253 Introduction to Differential Geometry (3 credit hours)
- MAA 6405 Complex Variables (3 credit hours)
- MAT 5712 Scientific Computing (3 credit hours)
- MAP 5426 Special Functions (3 credit hours)

Elective Courses—9 Credit Hours

Students should take three graduate-level courses offered by the Department of Mathematics and/or the Department of Statistics at UCF, with at most two elective courses from the Department of Statistics.

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Please submit all requested material by the established deadline(s). Applicants must apply online.

Application Deadlines

Mathematical Science Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Qiyu Sun
Professor
Program Director
qiyu.sun@ucf.edu
407-823-4839
PO Box 161364

Mathematics and Science Educator Graduate Certificate

PROGRAM DESCRIPTION

The program is designed to improve the quality of teaching and learning that occurs in grades K-8. Graduates of the Mathematics and Science Educator program will be able to assist faculty and administrators to reach all students to support their learning of mathematics and science. This program is dedicated to providing all graduates with exceptional pedagogical and subject matter knowledge and skills by focusing on research-based, state-of-the-art best practices in elementary and middle school mathematics and science education.

Other K-8 Mathematics and Science Programs

A Master of Education in K-8 Mathematics and Science Education is available, and the Mathematics and Science Educator Graduate Certificate can be transferred in its entirety into the master's program.

The K-8 Mathematics and Science Education master's program is closely aligned with both the EdD and PhD in Education programs. Graduates of the K-8 Mathematics and Science master's program have been very successful in completing advanced graduate degrees.

CURRICULUM

The Mathematics and Science Educator Graduate Certificate requires 12 credit hours of graduate courses, including 9 credit hours of required courses and 3 credit hours of an elective course.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- MAE 6641 Problem Solving and Critical Thinking Skills (3 credit hours)*
- MAE 6899 Seminar in Teaching Mathematics (3 credit hours)
- EEX 6342 Seminar Critical Issues in Special Education (3 credit hours)*

Elective Course—3 Credit Hours

Choose one of the following courses:

- SCE 5836 Space and Physical Science for Educators (3 credit hours)*
- ISC 6146 Environmental Education for Educators (3 credit hours)*

*Courses available only during summer term.

Medical Speech-Language Pathology Graduate Certificate

PROGRAM DESCRIPTION

The program is designed to prepare speech-language pathologists and students currently enrolled in the master's degree program with the knowledge and skills necessary to evaluate and treat individuals with medically related communication disorders.

CURRICULUM

Current UCF CSD graduate students: 12 credit hours total (3 courses selected from the list below). Students currently enrolled in the UCF Communication Sciences and Disorders MA program are required to take 9 credit hours in addition to SPA 6565 Feeding and Swallowing, which is required to fulfill the regular degree requirements.

Certificate only, for speech language pathologists (professionals): 12 credit hours (4 courses to be selected from the list below). SPA 6565 Feeding and Swallowing Disorders is a required course toward this certificate if the student has not previously taken a course in Feeding and Swallowing Disorders at the graduate level. All courses toward the Medical Speech-Language Pathology Certificate program should be selected in consultation with the Master's Program Coordinator and medical certificate faculty adviser, Dr. Bari Ruddy.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Master's Degree

Required Courses—12 Credit Hours

Complete four of the following six courses:

- SPA 6245 Communication Disorders in Cleft Palate-Velopharyngeal Dysfunction (3 credit hours)
- SPA 6417 Cognitive/Communication Disorders (3 credit hours)
- SPA 6565 Feeding and Swallowing Disorders (3 credit hours)
- SPA 6453 Management of Cognitive Communication Disorders in Traumatic Brain Injury (3 credit hours)
- SPA 6432 Issues in Autism (3 credit hours)
- SPA 6569 Management of Upper Airway and Aerodigestive Disorders (3 credit hours)

NOTE:

- Courses from a previous graduate degree program or certificate program cannot be applied toward the completion of the Certificate in Medical Speech-Language Pathology.
- Current students in UCF's Communication Sciences and Disorders MA program may only apply SPA 6565 Feeding and Swallowing Disorders toward both the Medical Speech-Language Pathology Certificate and the master's degree in communication sciences and disorders. Nine credit hours will need to be taken in addition to the regular master's program course requirements.

Military Social Work Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Military Social Work will prepare students to provide behavioral health services, including: mental health counseling aimed at building psychological resilience; treatment of post-traumatic stress disorder, depression, anxiety, suicide risk assessment and prevention techniques; and family therapy for strengthening military, veterans and their families during and after deployment.

CURRICULUM

The Military Social Work certificate is open to current UCF MSW students and a limited number of Counselor Education students only. Educational standards for all social work programs are established by the Council on Social Work Education (CSWE), the national accreditation body for professional social work education. Curriculum direction and content is regulated by the CSWE through its accreditation standards. The MSW program at UCF is fully accredited through CSWE.

The following courses are required for the certificate, but may also be used as electives in the MSW program.

Total Credit Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- SOW 5149 Military and Veteran Culture and Historical Frameworks (3 credit hours)
- SOW 6608 Understanding and Managing Combat Related Behavioral and Mental Health Disorders (3 credit hours)
- SOW 6610 Clinical Practice with Military and Veteran Families or Groups (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to current students in the UCF Master of Social Work program and a limited number of students in the UCF Counselor Education master's program. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. Please submit all requested material by the established deadline(s).

- One official transcript from each college/university attended (Graduate Studies should already have on file from your MSW application).
- Personal statement for Military Social Work. Applicants should write a personal autobiographical statement that is no more than two double spaced pages. Questions to answer include: What reasons or experiences led you to decide to apply for the military social work certificate? In completing the certificate, why is working with this population of interest to you?
- Up to date résumé

Students interested in admission to this certificate program should contact the Military Social Work Certificate Program Director for more information.

Application Deadlines

Military Social Work Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15		Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

James Whitworth, PhD, LCSW
Associate Professor
Program Director
James.whitworth@ucf.edu
407-823-6136
HPA1 RM 254

Modeling and Simulation of Behavioral Cybersecurity Graduate Certificate

PROGRAM DESCRIPTION

This graduate certificate is beneficial to individuals who have an interest in interdisciplinary studies and problem solving for modeling, simulation, and behaviorial aspects of cybersecurity.

UCF Partnerships

The Modeling and Simulation of Behavioral Cybersecurity certificate partners with several UCF master's programs. If students complete the certificate and are accepted into a partnering program, all certificate coursework can be used toward that master's degree. Here is a list of our partnering UCF master's programs:

- Computer Engineering MSCpE
- Industrial Engineering MS
- Modeling and Simulation MS

CURRICULUM

The Graduate Certificate in Modeling and Simulation of Behavioral Cybersecurity requires a total of 13 credit hours in courses in the required competency areas of Modeling and Simulation Fundamentals, Testing and Evaluation, and Modeling Techniques and Applications.

Total Credit Hours Required:

13 Credit Hours Minimum beyond the Bachelor’s Degree

Required Courses—13 Credit Hours

- IDC 5602 Cybersecurity: A Multidisciplinary Approach (3 credit hours) (Fall)
- CNT 5410L Cyber Operations Lab (3 credit hours) (Spring)
- IDC 6601 Behavioral Aspects of Cybersecurity (3 credit hours) (Summer)
- IDC 6600 Emerging Cyber Issues (1 credit hour) (Summer)
- IDS 6916 Simulation Research Methods and Practicum (3 credit hours) (Fall) or IDS 6262 Research Design for Modeling and Simulation (3 credit hours) (Fall)

Modeling and Simulation of Technical Systems Graduate Certificate

PROGRAM DESCRIPTION

This graduate certificate is beneficial to technical professionals involved with constructing and using simulation models of dynamic systems. All courses of the certificate program will be delivered electronically via distance education. Students are required to apply to the Out-of-State Cohort Track or the In-State Cohort Track.

APPLICATION REQUIREMENTS

Applicants must choose a track in this program. Track(s) may have different requirements.

CONTACT INFO

Sabrina Gordon MA
Program Staff
sabrina.gordon@ucf.edu
407-882-1407
Partnership 2 Building, Room 131D

Nonprofit Management Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Nonprofit Management is delivered completely online and is designed to prepare those individuals currently working in the nonprofit sector with additional training and skills. It offers specialized, graduate-level knowledge in nonprofit management, resources development, strategic planning, volunteerism and program evaluation. The certificate supports those currently working in the nonprofit sector or those looking for advancement in the nonprofit sector or in organizations that partner with the nonprofit sector.

Credits earned in the certificate program may be applied toward the Master of Nonprofit Management (MNM) degree. However, admission to the MNM degree program has separate requirements from those of the certificate program and students considering continuing into the master's degree should familiarize themselves with credit transfer policy and should consult with a faculty adviser early in their certificate program. The Graduate Certificate in Nonprofit Management requires that students complete 18 credit hours. Students must maintain at least a 3.0 grade point average in order to be awarded the Graduate Certificate. The Certificate must be completed within 3 years.

An Out-of-State Graduate Certificate in Nonprofit Management Cohort Track is also offered specifically for students who are not Florida residents and who reside outside of the state of Florida. The Out-of-State Cohort is also delivered completely online, and the curriculum is identical to the Florida resident program. Students in the cohort program pay less than half of the regular out-of-state tuition. Students interested in the Out-of-State certificate should refer to the Out-of-State Graduate Certificate in Nonprofit Management program track.

CURRICULUM

The Graduate Certificate in Nonprofit Management program is a completely online. Some courses may be offered face-to-face; however, students in this program are expected to have the ability to complete the coursework online. The program requires a minimum of 18 credit hours beyond the bachelor's degree; consisting of 15 credit hours of core courses and 3 credit hours of a restricted elective.

The Certificate program incorporates service learning in some of its courses. Service learning involves students partnering with a local nonprofit organization of their choice to offer technical assistance in a specific area of operation that is covered in their coursework. Service Learning enhances the students' academic experience and presents opportunities for networking. The process is supervised by the instructor and provides benefits to both the organization and the student.

Some of the courses may also involve group work intended to develop leadership abilities while providing an opportunity for the student to show his or her ability to be a team player. Group projects promote important intellectual and social skills and help to prepare students for professional work where teamwork and collaboration are necessary.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

- PAD 5145 Volunteerism in Nonprofit Management (3 credit hours)
- PAD 5146 Nonprofit Resource Development (3 credit hours)
- PAD 6142 Nonprofit Organizations (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)

Elective Course—3 Credit Hours

Choose one course below or see the graduate program director.

- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6149 Nonprofit Administration (3 credit hours - all core courses must be completed prior to taking this course)
- PAD 6167 Graduate Nonprofit Leadership Seminar (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- SOW 6383 Social Work Administration (3 credit hours)

An internship is required for students pursuing the National Nonprofit Leadership Certification. Students who provide documentation of at least 300 hours of nonprofit sector experience may have the internship waived.

National Nonprofit Leadership Certificate: The Nonprofit Leadership Alliance represents the achievements of national academic and experiential standards in nonprofit management. Students pursuing the Nonprofit Leadership Certification must complete PAD 6167 Graduate Nonprofit Leadership Seminar as their elective and meet the Nonprofit Leadership Alliance mandated requirements.

APPLICATION REQUIREMENTS

All applicants to this certificate program will also be required to submit:

- A current, professional résumé.
- Statement of Goals: This is a key component of the admission review process and serves as an example of the applicant's ability to express him or herself in writing. The goal statement must be no longer than two pages and should address the following:
    - What is your reason for pursuing graduate study in Nonprofit Management, including your future goals and plans?
    - What specific areas of Nonprofit Management interest you?
    - Work and/or Voluntary experience (nonprofit experience is preferred, not required)
- Applicants who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Application Deadlines

Nonprofit Management Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Mary Ann Feldheim PhD
Associate Professor
Program Director
mfeldhei@ucf.edu
407-823-2604
Health and Public Affairs II 238

Nursing Education Graduate Certificate

PROGRAM DESCRIPTION

Program Objectives

- Analyze social, economic, ethical, cultural, legal and political issues influencing nursing practice and health care in a global context.
- Collaborate with leaders in nursing and other disciplines to improve the quality of professional nursing practice and the health care system.
- Develop and implement leadership, management and teaching strategies for the improvement of health and health care.
- Develop practice models of evidence-based nursing practice incorporating nursing research.
- Influence health and public policy to improve health of communities.
- Participate in lifelong learning activities.
- Participate in research and disseminate research findings through presentation and publication.

- Synthesize advanced knowledge from the sciences, humanities and nursing theories to support advanced nursing practice.
- Plan, evaluate and implement the delivery of health care using critical thinking skills.
- Practice in an advanced nursing role.

CURRICULUM

The certificate program requires three courses, for a total of 9 credit hours.

Total Credit Hours Required:

9 Credit Hours Minimum beyond the Master's Degree

Optional courses cannot be substituted for the required courses and do not count toward the certificate.

Required Courses—9 Credit Hours

- NGR 6718 Evaluation in Nursing Education (3 credit hours)
- NGR 6791 Teaching Strategies for Nurse Educators (3 credit hours)
- NGR 6713 Curriculum Development in Nursing Education (3 credit hours)

Optional Courses

Students may take as an optional additional course:

- NGR 6715 Application of Instructional Technology for Nursing Education (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to nurses who hold an MSN degree from a regionally accredited institution or are currently enrolled in an accredited MSN program. Applicants must apply online. Please be sure to submit all requested material by the established deadline(s).

Admission to the program is competitive on a space-available basis. In addition to the general UCF graduate application requirements, applicants to this program must provide:

- One official transcript (in a sealed envelope) from each college/university attended.
- MSN degree earned or in progress from an accredited institution.
- Address the following 3 items in a written essay. Total word count for all (not each) answers should be 500 words or less, double spaced, 12 point Times New Roman font, and 1 inch margins:
    - Discuss the impact of the graduate nursing education in your desired track on the evolution of your professional role.
    - Describe the path you would take to ensure success in your graduate nursing education .
    - Identify one significant contemporary issue or problem in US health care and explore how members of the nursing profession can help address that issue or solve that problem.
- Curriculum Vitae which reflects prior education, recent clinical accomplishments, any recent scholarly work (publications and presentations), awards, additional certifications and activities with professional organizations. For recent graduates this can include accomplishments as a student.

Before submitting your application, it is recommended that applicants call the College of Nursing Graduate Office at 407-823-2744 to schedule an appointment with an adviser to discuss your goals for graduate study. It is advantageous to discuss the program before writing the required essay because the essay must address your goals for post-master's preparation for nursing education.

Admission to the program is competitive, based on evaluation of the applicant's abilities, past performance, recommendations, FDLE/FBI finger printing and certified background checks, and the match of UCF's master's programs with career goals. The College of Nursing accepts the most qualified students. Since enrollment is limited, not all students who apply may be accepted, even if minimum requirements are met.

Effective August 2017, the College of Nursing will be implementing a database, LEAP*RN (ProjectConcert) to manage information regarding student course work and plans of study, clinical placements, and all evaluation data. This database will assist us in maintaining standards required for CCNE accreditation, facilitate student progression, and enhance clinical tracking. All students will be responsible for an annual subscription of $77.40 payable directly to ProjectConcert. Holds will be placed on registration and enrollment if the subscription cost is not paid. Further information will be disseminated early in the summer.

Application Deadlines

Nursing Education Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Feb 15	Sep 15	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Michele Upvall EdD
Professor
Program Director
michele.upvall@ucf.edu
407.823.4185
UTWR 300

Play Therapy Graduate Certificate

PROGRAM DESCRIPTION

The Play Therapy certificate requires the completion of four graduate courses addressing foundations, theories, techniques, and applications of play therapy. Foundations of Play Therapy and Expressive Arts (MHS 6421) is a pre-requisite to all other courses in this certificate. Please note that this certificate program admits twice per year in fall and summer terms only. Whereas the Play Therapy Certificate does not certify individuals in Play Therapy, it can be listed as a Graduate Certificate in Play Therapy as part of one's credentials. The educational courses are designed toward helping individuals to seek their credential as a registered play therapist. Applicants should contact the Association for Play Therapy to verify the courses they need.

CURRICULUM

The Graduate Certificate in Play Therapy requires 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Master's Degree

Required Courses—12 Credit Hours

- MHS 6421 Foundations of Play Therapy and Expressive Arts (3 credit hours)
- MHS 6422 Advanced Theories and Techniques of Play Therapy (3 credit hours)
- MHS 6403 Group and Family Play Therapy (3 credit hours)
- MHS 6424 Filial Therapy (3 credit hours)

Police Leadership Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Police Leadership is designed to provide a theoretical and practical knowledge base for the law enforcement executive in criminal justice, public administration or social work.

Municipalities, county governments and state agencies have been working to develop new technologies, cooperative business and government relationships, and new ways of fighting and deterring criminal behavior. The police manager, who previously had been concerned only with issues involving statutes, policies and local jurisdictional issues, must now be concerned with human resource and management issues, employee assistance programs, ethical issues, and local, state, federal, and international government relations.

CURRICULUM

Students in the Police Leadership certificate must complete two required courses, one restricted elective and one course from the list of approved unrestricted electives, for a total of 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

- CJE 5021 Foundations of Law Enforcement (3 credit hours)
- CCJ 6106 Policy Analysis in Criminal Justice (3 credit hours)

Elective Courses—6 Credit Hours

Choose one of the following courses (3 credit hours):

- CCJ 6118 Criminal Justice Organizations (3 credit hours)
- CJL 6568 Law and Social Control (3 credit hours)
- PAD 5807 Local Government Operations (3 credit hours)
- PAD 6037 Public Organizational Management (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours).
    - *This course (PAD 6327) is an advanced program evaluation course. Those without a background in Public Administration are discouraged from enrolling in this course*.

And, choose one of the following courses (3 credit hours):

- CCJ 5015 The Nature of Crime (3 credit hours)
- CCJ 5456 The Administration of Justice (3 credit hours)
- CCJ 6431 Leadership and Ethics in Criminal Justice (3 credit hours)
- PAD 5041 Ethics and Values in Public Administration (3 credit hours)
- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)
    - *This course (PAD 6417) has a prerequisite of PAD 6700. Contact the Public Administration department for an override.*

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Police Leadership Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Elexis Ritz
Program Staff
elexis.ritz@ucf.edu
407-823-6093
HPA 311

Prekindergarten Disabilities Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Prekindergarten (Pre-K) Disabilities is designed to provide additional knowledge and skills for professionals to meet the requirements for the Pre-K Disabilities ESE Endorsement. The four graduate courses focus on knowledge, skills and competencies for working with children birth to age 5 with disabilities, developmental delays and/or at-risk conditions. They can be added to a current teaching certification in any exceptional education field, primary education, elementary education (K-6), and/or early childhood education. Pending state approval, persons holding any of the Florida teaching certifications listed may apply the four certificate courses toward the State Prekindergarten (Pre-K) Endorsement (Administrative Rule 6A-4.01792).

Tuition support for these courses is available for eligible candidates through the Pre-K Disabilities Endorsement Tuition Support Program from the Florida Department of Education, Bureau of Exceptional Education and Student Support Services. More information is available at: http://www.florida-ese.org/prekendorsement/

CURRICULUM

For the Prekindergarten Disabilities certificate, students complete four required courses (12 credit hours total).

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- EEX 5702 Planning Curriculum for Pre-Kindergarten Children with Disabilities (3 credit hours)
- EEX 5750 Communication with Parents and Agencies (3 credit hours)
- EEX 6017 Typical and Atypical Applied Child Development (3 credit hours)
- EEX 6222 Observation and Assessment of Young Children (3 credit hours)

Professional Writing Graduate Certificate

PROGRAM DESCRIPTION

The Professional Writing certificate is designed for busy professionals, all courses are offered via the web, and the program can be completed in as few as three consecutive semesters.

CURRICULUM

This flexible five-course sequence of graduate study includes two required core courses and allows students to choose three electives from the list below. Students will also complete an electronic writing portfolio before graduation.

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

- ENC 5337 Rhetorical Theory (3 credit hours)
- ENC 5237 Writing for the Business Professional (3 credit hours)

Elective Courses—9 Credit Hours

Choose three courses from the following list.

- ENC 5225 Theory and Practice of Document Usability (3 credit hours)
- ENC 5276 Writing/Consulting: Theory and Practice (3 credit hours)
- ENC 5705 Theory and Practice in Composition (3 credit hours)
- ENC 5930 Current Topics in Professional Writing (3 credit hours)
- ENC 6216 Editing Professional Writing (3 credit hours)*
- ENC 6217 Technical Editing (3 credit hours)*
- ENC 6247 Proposal Writing (3 credit hours)
- ENC 6257 Graphics in Technical Writing (3 credit hours)
- ENC 6261 Technical Writing, Theory and Practice (3 credit hours)
- ENC 6292 Project Management for Technical Writers (3 credit hours)
- ENC 6296 Computer Documentation (3 credit hours)
- ENC 6297 Production and Publication Methods (3 credit hours)
- ENC 6306 Persuasive Writing (3 credit hours)
- ENC 6332 Gendered Rhetoric (3 credit hours)
- ENC 6333 Contemporary Rhetoric and Composition Theory (3 credit hours)
- ENC 6335 Rhetorical Tradition (3 credit hours)
- ENC 6338 The Rhetorics of Public Debate (3 credit hours)
- ENC 6339 Rhetorical Movements (3 credit hours)
- ENC 6425 Hypertext Theory and Design (3 credit hours)
- ENC 6428 Rhetoric of Digital Literacy (3 credit hours)

- ENC 6429 Teaching Writing with Computers (3 credit hours)
- ENC 6945 Community Literacy Practicum (3 credit hours)
- ENC 6712 Studies in Literacy and Writing (3 credit hours)
- ENC 6245 Teaching Professional Writing (3 credit hours)
- ENC 6740 Topics in Rhetoric and Composition (3 credit hours)
- ENG 5009 Methods of Bibliography and Research (3 credit hours)
- LIN 5137 Linguistics (3 credit hours)
- LIN 5675 English Grammar and Usage (3 credit hours)

*Note: Due to their similarity, students can apply either ENC 6216 or ENC 6217 to this program of study. Students cannot use both for elective credit for this program.

Electronic Writing Portfolio

Students will complete an electronic writing portfolio before filing for graduation. This portfolio must be approved by the program director and must include three exemplary projects, each from a different course. A page analyzing the rhetorical situation should accompany each project.

Exit Survey

Students should complete the Exit Survey at the end of their program if they would like to receive a certificate of program completion in addition to their grade audit.

APPLICATION REQUIREMENTS

Admission requires a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program, official transcripts, and a statement of academic intent must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Successful applicants will have received a grade of "A" or "B" in an upper-division writing intensive course. All applications require the following in order to be reviewed:

- An application to the graduate certificate program
- Official transcripts
- A statement of academic intent

Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance and the applicant's potential for completing the certificate.

Application Deadlines

Professional Writing Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Nov 1	Mar 30
International Applicants				
International Transfer Applicants				

CONTACT INFO

Martha Brenckle PhD
Program Director
martha.brenckle@ucf.edu
407-823-0746
CNH 301A

Project Engineering Graduate Certificate

PROGRAM DESCRIPTION

The certificate program compliments their technical backgrounds with the human aspects, organizational and financial issues, project considerations, and analytical tools for effective decision making.

CURRICULUM

For the Project Engineering certificate, students complete three required courses and one elective course, for a total of 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- EIN 5108 The Environment of Technical Organizations (3 credit hours)
- EIN 5117 Management Information Systems I (3 credit hours)
- EIN 5140 Project Engineering (3 credit hours)

Elective Course—3 Credit Hours

Choose one of the following two courses.

- EIN 6357 Advanced Engineering Economic Analysis (3 credit hours)
- ESI 6358 Decision Analysis (3 credit hours)

Public Administration Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Public Administration provides graduate-level continuing education for both in-service and pre-career students. The program emphasizes the managerial skills essential for local government programs in an evolving metropolitan environment. The knowledge gained can strengthen the student's professional standing and help open doors to managerial and support positions.

Credits earned in the certificate program may be applied toward the Master of Public Administration (MPA) degree. However, admission to the MPA degree program has separate requirements from those of the certificate program and students considering continuing into the master's degree should familiarize themselves with credit transfer policy and should consult with a faculty adviser early in their certificate program. The Graduate Certificate in Public Administration requires that students complete 18 credit hours. Students must maintain at least a 3.0 grade point average in order to be awarded the Graduate Certificate. The certificate must be completed within three years.

CURRICULUM

The Public Administration graduate certificate requires 18 credit hours of courses, including 15 credit hours of required courses and 3 credit hours of an elective course.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

- PAD 6035 Public Administration in the Policy Process (3 credit hours)
- PAD 6037 Public Organization Management (3 credit hours)
- PAD 6053 Public Administrators in the Governance Process (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)

Restricted Elective Courses—3 Credit Hours

Choose one course from the following list.

- PAD 5427 Labor Relations in the Public Sector (3 credit hours)
- PAD 5807 Local Government Operations (3 credit hours)
- PAD 5060 Administrative Practice in the Public Sector (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6307 Public Policy Analysis and Management (3 credit hours)
- PAD 6327 Public Program Evaluation Techniques (3 credit hours)
- PAD 6335 Strategic Planning and Management (3 credit hours)

APPLICATION REQUIREMENTS

All applicants to this certificate program will be required to submit:

- An official transcript in a sealed envelope from each college/university attended.
- A current, professional résumé.
- Statement of Goals: This is a key component of the admission review process and serves as an example of the applicant's ability to express him or herself in writing. The goal statement must be no longer than two pages and should address the following:
    - What is your reason for pursuing graduate study in Public Administration, including your future goals and plans?
    - What specific areas of Public Administration interest you?
    - Work and/or Voluntary experience
- Applicants who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Materials received after the established deadline may not be considered. Admission to this certificate is competitive; applicants meeting the minimum application requirements are not guaranteed admission to the program.

Application Deadlines

Public Administration Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Jeremy Hall PhD
Professor
Program Director
jeremy.hall@ucf.edu
407-823-1921

Public Budgeting and Finance Graduate Certificate

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

CURRICULUM

The Graduate Certificate in Public Budgeting and Finance is comprised of 18 credit hours of graduate courses, including four required courses and two electives. This certificate prepares students for budgeting and financial careers in government.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- PAD 6207 Public Financial Management (3 credit hours)
- PAD 6227 Public Budgeting (3 credit hours)
- PAD 6238 Revenue Policy and Administration (3 credit hours)
- PAD 6616 Economic Principles for Public Policy and Management (3 credit hours)

Electives—6 Credit Hours

Choose two courses from the following list.

- PAD 5356 Managing Community and Economic Development (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 5855 Introduction to Public Procurement (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 6234 Public Capital and Debt (3 credit hours)
- PAD 6254 Economics of Land Use Planning and Development (3 credit hours)
- PAD 6260 Fundamentals of Public Sector Accounting (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

All applicants to this certificate program will be required to submit:

- An official transcript in a sealed envelop from each college/university attended, showing a GPA of 2.5 or better on a 4.0 scale.
- A current, professional resume.
- Statement of Goals: This is a key component of the admission review process and serves as an example of the applicant's ability to express him or herself in writing. The goal statement must be no longer than two pages and should address the following:
    - What is your reason for pursing graduate study in Public Budgeting and Finance, including your future goals and plans?
    - What specific areas of Public Budgeting and Finance interest you?
    - Any previous work experience in the field.
- Applicants applying to this program who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Materials received after the established deadline may not be considered. Admission to this certificate is competitive; applicants meeting the minimum application requirements are not guaranteed admission to the program.

Application Deadlines

Public Budgeting and Finance Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 15	Nov 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

David Mitchell PhD
Assistant Professor
Program Director
David.Mitchell@ucf.edu
407-823-5365
Health and Public Affairs II, room 239

Quality Assurance Graduate Certificate

PROGRAM DESCRIPTION

Much of the resurgence of U.S. companies and service organizations in the global marketplace has been due to an increased emphasis on quality. Today's consumers are offered many alternatives to meet their needs, and they have consequently become very discriminating in their purchases. In addition, companies seek to be known as a quality organization, not merely the producer of quality products. The Graduate Certificate in Quality Assurance provides students with the knowledge they need to increase process and product performance, to improve the quality and reliability of goods and services and to institute steps to make their organizations more competitive through an overall commitment to quality.

CURRICULUM

For the Quality Assurance certificate, students complete three required courses and one elective course, for a total of 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor’s Degree

Required Courses—9 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5236 Reliability Engineering (3 credit hours)
- ESI 6225 Quality Design and Control (3 credit hours)

Elective Course—3 Credit Hours

Choose one of the following two courses.

- ESI 5227 Total Quality Improvement (3 credit hours)
- ESI 6224 Quality Management (3 credit hours)

APPLICATION REQUIREMENTS

Application Deadlines

Quality Assurance Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Ahmad Elshennawy PhD
Professor
Program Director
ahmade@ucf.edu
407-823-2204
Engineering 2, Room 312

Reading Education Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Reading Education meets Florida Department of Education Reading Endorsement requirements and prepares classroom teachers with an emphasis on research-based strategies for assessment and instruction of K-12 reading.

CURRICULUM

For the Reading Education certificate, students complete six required courses (18 credit hours total). Although there are no program course prerequisites, candidates who have had no previous children's or adolescent literature courses are strongly encouraged to take one course prior to enrolling in the certificate program or at least prior to enrolling in RED 6846 Reading Practicum.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Suggested courses for those candidates who have not had previous children's or adolescent literature courses include: LAE 5415 Children's Literature in Elementary Education (3 credit hours) or LAE 5465 Literature for Adolescents (3 credit hours).

Required Courses—18 Credit Hours

- RED 5147 Developmental Reading* (3 credit hours)
- RED 5517 Classroom Diagnosis and Development of Reading Proficiencies (3 credit hours) (PR: RED 5147)
- TSL 5085 Teaching Language Minority Students in K-12 Classrooms* (3 credit hours)
- RED 6845 Advanced Evaluation and Instruction in Reading (3 credit hours) (PR: RED 5517)
- RED 6846 Reading Practicum (6 credit hours) (PR: RED 6845)

*Online delivery course.

APPLICATION REQUIREMENTS

Applicants must show proof of one of the following: Florida professional teaching certificate, Florida Department of Education Statement of Eligibility indicating that all requirements for professional (not temporary) certification have been met, completion of a state-approved initial teacher preparation program (undergraduate or graduate), or admission to a graduate level state-approved preparation program.

Applicants must show proof of one of the following: Florida professional teaching certificate, Florida Department of Education Statement of Eligibility indicating that all requirements for professional (not temporary) certification have been met, completion of a state-approved initial teacher preparation program (undergraduate or graduate), or admission to a graduate level state-approved preparation program.

Application Deadlines

Reading Education Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Karri Williams PhD
Associate Professor
Program Director
Karri.Williams@ucf.edu
321-433-7922
UCF Cocoa (BC 357)

Research Administration Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in Research Administration is a 18-credit online certificate that provides an overview of the core concepts in research administration for those interested in management within research organizations. The Certificate is intended to meet the needs of individuals seeking a focused experience in order to prepare for or advance their careers in research management and leadership. It is appropriate for students who seek to expand their knowledge, but who do not wish to commit to a master's degree program.

Credit earned in the certificate program may be applied toward the Master of Research Administration (MRA) degree. However, admission to the MRA degree program has separate requirements from those of the certificate program. Students considering continuing into the master's degree should familiarize themselves with the credit transfer policy and consult with a faculty adviser early in their certificate program. The Graduate Certificate in Research Administration requires that students complete 18 credit hours of courses. Students must maintain at least a 3.0 grade point average in order to be awarded the Graduate Certificate. The certificate must be completed within three years.

CURRICULUM

The Graduate Certificate in Research Administration requires 18 credit hours of online courses that provide an overview of the core concepts in research administration. Students take 12 credit hours of required courses and choose 6 credit hours of elective courses.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- PAD 6742 Introduction to Research Administration (3 credit hours)
- PAD 6743 Leadership and Organization Models in Research Administration (3 credit hours)
- PAD 6747 Audits in Research Administration (3 credit hours)
- PAD 6741 Research Integrity for Research Administrators (3 credit hours)

Elective Courses—6 Credit Hours

Select two courses from the following list:

- PAD 6748 Governance and Regulatory Issues for Sponsored Programs (3 credit hours)
- PAD 6745 Contracting for Sponsored Programs (3 credit hours)
- PAD 6744 Financial Management in Research Administration (3 credit hours)
- PAD 6746 Intellectual Property, Technology Transfer and Commercialization (3 credit hours)

Cost Per Credit Hour

For the Graduate Certificate in Research Administration, the cost per credit hour is $655.62.*

*Fee is subject to change

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution with an undergraduate GPA of 2.5 (on a 4.0 scale). Applicants must . Students must submit all required material by the established deadline. Materials received after the established deadline may not be considered. Admission to this certificate is competitive; applicants meeting the minimum application requirements are not guaranteed admission to the program.

All applicants to this certificate program will be required to submit:

- An official transcript in a sealed envelope from each college/university attended.
- A current, professional résumé.
- Statement of Goals: This is a key component of the admission review process and serves as an example of the applicant's ability to express him or herself in writing. The goal statement must be no longer than two pages and should address the following:
    - What is your reason for pursuing graduate study in Research

Administration, including your future goals and plans?
  - What specific areas of Research Administration interest you?
  - Working in Research Administration is preferred, not required.

- Applicants who have attended a college/university outside the United States must provide a course-by-course credential evaluation with GPA calculation. Credential evaluations are accepted from World Education Services (WES) or Josef Silny and Associates, Inc. only.

Materials received after the established deadline may not be considered. Admission to this certificate is competitive; applicants meeting the minimum application requirements are not guaranteed admission to the program.

Admission to this certificate program is limited. Please refer to the specific MRA program website for tuition rates. The University of Central Florida does not accept State Employee Waivers for this certificate program.

Application Deadlines

Research Administration Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Jo Ann Smith PhD
Assistant Professor
Program Director
Jo.Smith@ucf.edu
407-823-2604
HPA II - Suite 238

SAS Data Mining Graduate Certificate

PROGRAM DESCRIPTION

The Graduate Certificate in SAS Data Mining provides students the knowledge to use statistical, data presentation, and data visualization tools needed for data mining with SAS/Enterprise Miner and SAS/Warehouse Administrator software. The program welcomes interested UCF students and those already employed full-time but wishing to advance their careers. Basic familiarity with the web and computer programming is required.

CURRICULUM

The program requires five courses and is set up so that students begin the program in the fall semester. Applicants contemplating applying for spring and summer terms should first contact the program coordinator for advisement.

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

Two courses can be taken during the initial fall semester. The remaining courses will be taken one per semester during the spring (year 1), fall (year 2) and spring (year 2) semesters. All courses are scheduled in the late afternoon or evening hours.

Required Courses—15 Credit Hours

- STA 5104 Advanced Computer Processing of Statistical Data (3 credit hours)
- STA 5206 Statistical Analysis (3 credit hours)
- STA 6714 Data Preparation (3 credit hours)
- STA 5703 Data Mining Methodology I (3 credit hours)
- STA 6704 Data Mining Methodology II (3 credit hours)

Students who have a sufficient background in statistics, subject to the approval of the graduate program director, can take a higher-level course such as STA 6236 Regression Analysis instead of STA 5206 Statistical Analysis.

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline(s).

Application Deadlines

SAS Data Mining Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

James Schott PhD
Professor
Program Director
james.schott@ucf.edu
407-823-2797

CCII 205

Severe or Profound Disabilities Graduate Certificate

PROGRAM DESCRIPTION

The course work in the Severe or Profound Disabilities (SPD) certificate focuses on knowledge, skills and competencies for working with students with SPD. Pending state approval, persons holding Florida ESE teacher certification may apply the five certificate courses toward State Endorsement in Severe or Profound Disabilities (Administrative Rule 6A-4.0179).

CURRICULUM

The program requires five graduate courses (15 credit hours total) that can be incorporated into a master’s program of study in Exceptional Education or taken as an add-on to an undergraduate or graduate degree. The graduate internship for EEX 6946 must be completed in a classroom with students with severe or profound disabilities or students with autism spectrum disorders.

Total Credit Hours Required:

15 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—15 Credit Hours

- EEX 6297 Assessment, Diagnosis, and Curriculum Prescriptions for Students with Autism* (3 credit hours)
- EEX 6759 Transition Planning and Interdisciplinary Teaming for Students with Disabilities (3 credit hours)
- EEX 6246 Nature of Autism: Theory and Educational Practice* (3 credit hours)

- EEX 6946 Graduate Internship: Exceptional Education (3 credit hours)
- EMR 6235 Nature of Severe or Profound Disabilities: Theory and Educational Practice (3 credit hours)

* As per Graduate Certificate Program Policies, students may substitute electives as approved by the program director if they have already taken EEX 6297 and EEX 6246 in the Autism Spectrum Disorders Certificate.

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Severe or Profound Disabilities Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Nov 15	Apr 1
International Applicants				
International Transfer Applicants				

CONTACT INFO

Eleazar Vasquez
Program Director
eleazar.vasquez@ucf.edu
407-823-2898
ED 315 F

Social Science Education Graduate Certificate

PROGRAM DESCRIPTION

The program is designed to improve the quality of teaching and learning in social science classrooms. Graduates of the K-12 Social Science program form a strong infrastructure of teachers focusing on long-term impact in schools while helping students succeed in learning social science content. The focus of the K-12 Social Science Education Graduate Certificate is to provide all graduates with exceptional pedagogical and subject matter knowledge and skills by focusing on research-based, state-of-the-art best practices in social science education.

Other K-12 Social Science Education Programs

A Master of Education in K-12 Social Science Education is available. Students who successfully complete the graduate certificate may transfer credits from the Social Science Education Graduate Certificate into the Med program, if they meet the acceptance criteria and are admitted into the Med in Social Science Education program. In addition, the K-12 Social Science Education master's program is closely allied with the Education PhD, Social Science Education Track. Graduates of the Social Science Education master's program have been very successful in completing advanced graduate degrees.

CURRICULUM

The graduate certificate in Social Science Education includes four required courses chosen from the list of approved courses.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- EDS 5356 Mentoring and Clinical Supervision of Pre-professional Educators (3 credit hours)
- SSE 5391 Global Education: Theory and Practice (3 credit hours)
- SSE 5776 Democracy and Education (3 credit hours)
- SSE 5790 Inquiry and Instructional Analysis in Social Science Education (3 credit hours)
- SSE 6115 Methods in Elementary School Social Science (3 credit hours)
- SSE 6348 Foundations and Fundamentals of Teaching History in the K-12 Classroom (3 credit hours)
- SSE 6387 Teaching with Film (3 credit hours)
- SSE 6388 Digital History in the K-12 Classroom (3 credit hours)
- SSE 6396 Teaching with Primary Sources in the History Classroom (3 credit hours)
- SSE 6617 Trends in Elementary School Social Studies Education (3 credit hours)
- SSE 6636 Contemporary Social Science Education (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Social Science Education Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Scott Waring PhD
Associate Professor
Program Director
socscied@ucf.edu
407-823-1766
ED 206J

Social Work Administration Graduate Certificate

PROGRAM DESCRIPTION

This program has been temporarily suspended effective Summer 2014.

The Social Work Administration Graduate Certificate offers students preparation in management of public sector and private nonprofit agencies. Each student will select courses that are suited to their career objective. The courses offered in this program include strategies for organizational management, strategic planning, employment law, leadership skills development, selection of performance measurements, quality assurance, needs assessments, program monitoring and evaluation, budgeting, grant writing and human resource management.

CURRICULUM

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

- SOW 6246 Policy Analysis and Social Change (3 credit hours)
- SOW 6383 Social Work Administration (3 credit hours)

Elective Courses—6 Credit Hours

Select two courses from the following list.

- SOW 6373 Clinical Supervision (3 credit hours)
- SOW 6384 Administrative Supervision in Social Work (3 credit hours)
- PAD 5850 Grant and Contract Management (3 credit hours)
- PAD 6208 Nonprofit Financial Management (3 credit hours)
- PAD 6417 Human Resource Management (3 credit hours)

Special Education Graduate Certificate

PROGRAM DESCRIPTION

The Special Education certificate will help out-of-field teachers become more effective in their classrooms and will enhance the delivery of education to children and youth with disabilities.

CURRICULUM

The Special Education certificate requires six courses (18 credit hours total).

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—18 Credit Hours

- EEX 5051 Exceptional Children in the Schools (3 credit hours)
- EEX 6061 Instructional Strategies Pre-K-6 (3 credit hours)
- EEX 6065 Programming for Students with Disabilities at the Secondary Level (3 credit hours)
- EEX 6107 Teaching Spoken and Written Language (3 credit hours)
- EEX 6295 Assessment and Curriculum Prescriptions for the Exceptional Population (3 credit hours)
- EEX 6612 Methods of Behavior Management (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline. Because this certificate program is delivered entirely online, international applicants residing outside of the U.S. may be considered for admission but do not qualify for F-1 student or other travel visas.

Application Deadlines

Special Education Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Nov 15	Apr 1
International Applicants				
International Transfer Applicants				

CONTACT INFO

Mary Little PhD
Program Director
mary.little@ucf.edu
407-823-3275
ED 315J

Structural Engineering Graduate Certificate

PROGRAM DESCRIPTION

Structural engineering plays a significant role in the ongoing infrastructure developments in the central Florida area. Engineers continually need to update their knowledge of the state-of-the-art in research and practice in order to ensure the safety of constructed facilities. The Graduate Certificate in Structural Engineering is designed to advance the knowledge of civil and structural engineers. The Graduate Certificate is a good way for qualified students to sample the graduate programs in this area. However, because these are graduate level classes, students must have an undergraduate degree in Civil Engineering or closely related discipline in order to be admitted.

CURRICULUM

For the Structural Engineering certificate, students have the flexibility to choose four courses from a list of approved engineering courses, for a total of 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

Choose four of the following courses.

- CEG 6115 Foundation Engineering (3 credit hours)
- CES 5144 Matrix Structural Analysis (3 credit hours)
- CES 5325 Bridge Engineering (3 credit hours)

- CES 5606 Advanced Steel Structures (3 credit hours)
- CES 5706 Advanced Reinforced Concrete (3 credit hours)
- CES 6010 Structural Reliability (3 credit hours)
- CES 6116 Finite Element Structural Analysis (3 credit hours)
- CES 6209 Dynamics of Structures (3 credit hours)
- CES 6220 Wind and Earthquake Engineering (3 credit hours)
- CES 6230 Advanced Structural Mechanics (3 credit hours)
- CES 6527 Nonlinear Structural Analysis (3 credit hours)
- CES 6715 Prestressed Concrete Structures (3 credit hours)

Supporting High Needs Populations Graduate Certificate

PROGRAM DESCRIPTION

The program is comprise of two graduate courses that address critical issues associated with life in urban schools and two graduate-level specialization electives tailored to personal areas of concentration.

CURRICULUM

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—6 Credit Hours

- EDF 6725 Critical Issues in Study of High-Needs Populations (3 credit hours)
- EDF 6155 Lifespan Human Development and Learning (3 credit hours)

Elective Courses—6 Credit Hours

Select two courses from the following electives.

- CCJ 6485 Issues in Justice Policy (3 credit hours)
- ECW 6067 History of Career Education in the United States (3 credit hours)
- EDF 6206 Challenges of Classroom Diversity (3 credit hours)
- EDF 6855 Factors Affecting Equitable Educational Opportunity and Life Chances: A Cross-National Analysis (3 credit hours)
- EDF 6886 Multicultural Education (3 credit hours)
- EDG 6636 Impact of Social Contexts on Teaching and Learning (3 credit hours)
- EEX 6342 Seminar: Critical Issues in Special Education (3 credit hours)
- EGI 6246 Education of Special Populations of Gifted Students (3 credit hours)
- RED 5147 Developmental Reading (K-12) (3 credit hours)
- SPS 6700 Advanced Psychoeducation and Data-Based Decision-Making (3 credit hours)
- SPS 5605 Building and Improving Relationship and Emotional Intelligence (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

Supporting High Needs Populations Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Nov 15	Apr 1
International Applicants				
International Transfer Applicants				

CONTACT INFO

Martha Lue-Stewart PhD
Professor
Program Director
martha.stewart@ucf.edu
407-823-2036
ED 315S

Systems Engineering Graduate Certificate

PROGRAM DESCRIPTION

There is a significant need and demand within many companies for systems engineering.

CURRICULUM

For the Systems Engineering certificate, students complete four required courses, for a total of 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- ESI 5219 Engineering Statistics (3 credit hours)
- ESI 5306 Operations Research (3 credit hours)
- ESI 5531 Discrete Systems Simulation (3 credit hours)
- ESI 6551C Systems Engineering (3 credit hours)

Teaching English as a Foreign Language Graduate Certificate

PROGRAM DESCRIPTION

The program focuses on the fundamentals of EFL teaching principles and methodology, linguistics, materials/curriculum development, and testing.

English has become the gateway to many international and technical jobs, as well as for entrance into institutions of higher education, and the number of people interested in learning English as a second or third language is increasing steadily. With the rising demand for English instructors comes an increasing need for individuals qualified to teach English as a Foreign Language. The majority of overseas English language schools require their teachers to be certified in Teaching English as a Foreign Language. There is no such thing as an "international certification," though many online sites appear to offer one. Our four-course program is taught by qualified instructors with experience in language pedagogy and overseas teaching. (Note: The TEFL Certificate Program is not designed for teachers seeking K-12 ESOL endorsement in Florida.)

CURRICULUM

The TEFL Graduate Certificate can be completed in one or more semesters, depending on the semester of entrance. It can also be completed fully online, depending on your selection of courses. Students must consult with their adviser or the program director prior to selecting the four courses for their program. No course substitutions are allowed.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

Select any four from the following basket of courses. Please consult with your adviser to help you choose the courses that best fit the needs for your future career.

- TSL 5345 Methods of ESOL Teaching (3 credit hours)
- TSL 6940 ESOL Practicum (3 credit hours)
- TSL 5940 Issues in TEFL (3 credit hours)
- TSL 6142 Critical Approaches to ESOL (3 credit hours)
- TSL 6250 Applied Linguistics in ESOL (3 credit hours)
- TSL 6350 Grammar ESOL (3 credit hours)
- TSL 6440 Assessment Issues in TESOL (3 credit hours)
- TSL 6640 Research in Second Language (3 credit hours)
- TSL 6252 Sociolinguistics (3 credit hours)
- TSL 5380 Computer and Technology for ESOL (3 credit hours)
- TSL 5601 Second Language Vocabulary Learning (3 credit hours)
- TSL 6642 Issues in Second Language Acquisition (3 credit hours)
- TSL 6374 TESOL Listening, Speaking, and Pronunciation (3 credit hours)
- TSL 6442 Fundamentals of Standardized Assessment in TESOL (3 credit hours)
- TSL 5376 Reading and Writing in a Second Language (3 credit hours)

Though the courses may be taken in any order, it is recommended that TSL 6940 ESOL Practicum be taken near the end of a program of study (if that course is included).

INDEPENDENT LEARNING

Many of the courses have service-learning or practical experience components. This is to ensure that at the end of your TEFL Graduate Certificate you have the education, experience, and expertise to teach EFL in any setting.

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.Meeting minimum UCF admission criteria does not guarantee program admission. Final admission is based on evaluation of the applicant's abilities, past performance and the applicant's potential for completing the certificate.

Application Deadlines

Teaching English as a Foreign Language Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 1	Dec 1	Apr 1
International Applicants				
International Transfer Applicants				

CONTACT INFO

Keith Folse PhD
Program Director
keith.folse@ucf.edu
407-823-0087
CNH 515

Technology Ventures Graduate Certificate

PROGRAM DESCRIPTION

The associated courses offer insight into opportunity assessment, innovation diffusion, intellectual property issues, university-industry collaboration, technology business strategies, and business plan formulation.

CURRICULUM

Total Credit Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- GEB 6518 Strategic Innovation (3 credit hours)
- GEB 5516 Technological Entrepreneurship (3 credit hours)
- GEB 6116 Business Plan Formation (3 credit hours)

Training Simulation Graduate Certificate

PROGRAM DESCRIPTION

Due to the tremendous growth in military and commercial training simulation, many people in this industry are facing the need for additional education.

CURRICULUM

For the Training Simulation certificate, students complete three required courses, for a total of 9 credit hours.

Total Credit Hours Required:

9 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—9 Credit Hours

- EIN 5255C Interactive Simulation (3 credit hours)
- EIN 6645 Real-Time Simulation Agents (3 credit hours)
- EME 6613 Instructional System Design (3 credit hours)

Transportation Engineering Graduate Certificate

PROGRAM DESCRIPTION

As gridlock becomes more evident, more skilled professionals will be needed.

CURRICULUM

For the Transportation Engineering certificate, students have the flexibility to choose four courses from a list of approved engineering courses, for a total of 12 credit hours.

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

Choose four courses from the following list.

- CGN 6655 Regional Planning, Design, and Development (3 credit hours)
- TTE 5204 Traffic Engineering (3 credit hours)
- TTE 6256 Traffic Operations (3 credit hours)
- TTE 5805 Geometric Design of Transportation Systems (3 credit hours)
- TTE 6205 Highway Capacity (3 credit hours)
- TTE 6270 Intelligent Transportation Systems (3 credit hours)
- TTE 6315 Traffic Safety Analysis (3 credit hours)
- TTE 6526 Airport Planning and Design (3 credit hours)
- TTE 6625 Mass Transportation Systems (3 credit hours)

APPLICATION REQUIREMENTS

Students must have completed an undergraduate Transportation course (such as TTE 4004) or an equivalent.

Application Deadlines

Transportation Engineering Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Omer Tatari PhD, LEED, AP
Associate Professor
Program Director
tatari@ucf.edu
407-823-6558
Engineering II, 301-K

Urban and Regional Planning Graduate Certificate

PROGRAM DESCRIPTION

Planning has been identified as one of the key policy issues in central Florida, which is a major growth area in the state.

CURRICULUM

The Urban and Regional Planning graduate certificate requires 18 credit hours of courses, including 12 credit hours of required courses and 6 credit hours of elective courses.

Total Credit Hours Required:

18 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- PAD 5336 Introduction to Urban Planning (3 credit hours)
- PAD 5337 Urban Design (3 credit hours)
- PAD 5338 Land Use and Planning Law (3 credit hours)
- PAD 6716 Information Systems for Public Managers and Planners (3 credit hours)

Restricted Electives—6 Credit Hours

Choose two courses from the following list.

- PAD 5356 Managing Community and Economic Development (3 credit hours)
- PAD 6316 Planning Methods (3 credit hours)
- PAD 6387 Transportation Policy (3 credit hours)
- PAD 6397 Managing Emergencies and Crises (3 credit hours)
- PAD 6353 Environmental Planning and Policy (3 credit hours)
- PAD 6825 Cross-Sectoral Governance (3 credit hours)
- PAD 6847 Planning Healthy Communities (3 credit hours)

APPLICATION REQUIREMENTS

All applicants to this certificate program will be required to submit:

- One official transcript (in a sealed envelope) from each college/university attended.
- Current professional résumé including experience in the field (paid or voluntary).
- Goal Statement: The goal statement is a key component of the admission review process and serves as an example of the applicant's ability to express himself or herself in writing. The goal statement must be no longer than two pages double spaced (500-800 words) and should address the following:
    - Personal background and career aspirations in urban and regional planning.
    - Reason for pursuing graduate study in urban and regional planning, including your future career goals and plans.
    - Specific areas of urban and regional planning that interests you.

These documents must be attached to the application. Applications must be submitted by the established deadline date. Applications received after the established deadline may not be considered. Students are expected to be computer literate and have computer internet access upon entry to the program. Admission to this program is competitive; applicants meeting the minimum admission requirements are not guaranteed admission to this program.

Application Deadlines

Urban and Regional Planning Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jun 15	Dec 1	
International Applicants				
International Transfer Applicants				

CONTACT INFO

Christopher Hawkins PhD
Assistant Professor
Program Director
christopher.hawkins@ucf.edu
407-823-2706
HPA2 233

World Languages Education - English for Speakers of Other Languages (ESOL) Graduate Certificate

PROGRAM DESCRIPTION

The graduate certificate is designed for College of Education and Human Performance students pursuing graduate initial certification degrees in secondary content areas, school leadership, or student support fields. Students who successfully complete this graduate certificate can expect to increase their marketability in educational professions that serve English learners in PreK-12 settings. This graduate certificate is designed to promote student success in PreK-12 schools but does not directly qualify students for teacher certification. Courses used to earn this certificate may not also be used to earn the World Languages Education - Languages Other Than English (LOTE) graduate certificate.

CURRICULUM

The World Languages Education, English for Speakers of Other Languages (ESOL) graduate certificate builds knowledge and skills in teaching and assessing academic subjects and supporting second language acquisition and literacy for teaching English learners in PreK-12 schools. The graduate certificate is designed for College of Education and Human Performance students pursuing graduate initial certification degrees in secondary content areas, school leadership, or student support fields. To earn the certificate, students complete four required courses (12 credit hours total).

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours)
- TSL 6379 Second Language Literacy (3 credit hours) or TSL 6250 Applied Linguistics in ESOL (3 credit hours)
- TSL 5345 Methods of ESOL Teaching (3 credit hours)
- TSL 5525 ESOL Cultural Diversity (3 credit hours)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

World Languages Education - English for Speakers of Other Languages (ESOL) Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Joyce Nutta PhD
Associate Professor
Program Director
joyce.nutta@ucf.edu
407-823-4341
ED 122M

World Languages Education - Languages Other Than English (LOTE) Graduate Certificate

PROGRAM DESCRIPTION

Students who successfully complete this graduate certificate can expect to increase their marketability in careers that include educational components such as instructing, training and lecturing. This graduate certificate is designed to promote student success in instructional settings, particularly in the PreK-12 school setting, but does not directly qualify students for teacher certification. Courses used to earn this certificate may not also be used to earn the World Languages Education - English for Speakers of Other Languages (ESOL) graduate certificate.

CURRICULUM

The World Languages Education, Languages Other Than English (LOTE) graduate certificate builds knowledge and skills in teaching and assessing academic subjects and supporting second language acquisition and literacy for teaching languages other than English. The graduate certificate is well suited for students pursuing a graduate degree in a language other than English or for students with graduate standing who are proficient in a LOTE that they would like to teach. To earn the certificate, students complete four required courses (12 credit hours total).

Total Credit Hours Required:

12 Credit Hours Minimum beyond the Bachelor's Degree

Required Courses—12 Credit Hours

- TSL 5085 Teaching Language Minority Students in K-12 Classrooms (3 credit hours; online)
- TSL 6379 Second Language Literacy (3 credit hours; online) or TSL 6250 Applied Linguistics in ESOL (3 credit hours; online)
- FLE 5331 Foreign Language Methods at the Secondary Level (3 credit hours) or TSL 5345 Methods of ESOL Teacing (3 credit hours; online)
- FLE 5335 Foreign Language Methods at the Elementary Level (3 credit hours) or FLE 6695 Professional Development in Foreign Language Education (3 credit hours; online)

APPLICATION REQUIREMENTS

Admission is open to those with a bachelor's degree from a regionally accredited institution. An application to the graduate certificate program and official transcripts must be submitted. Applicants must apply online. All requested materials must be submitted by the established deadline.

Application Deadlines

World Languages Education - Languages Other Than English (LOTE) Graduate Certificate	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Joyce Nutta PhD
Associate Professor
Program Director
joyce.nutta@ucf.edu
407-823-4341
ED 122M

NONDEGREE OR TRANSIENT PROGRAMS

Nondegree or Transient

PROGRAM DESCRIPTION

The Nondegree program is for students who have completed at least a baccalaureate degree from a regionally accredited university in the United States and are not seeking a graduate degree. Students in this status may be interested in taking graduate courses at UCF for personal or professional enhancement, to prepare for possible admission to a graduate degree-seeking or certificate program, or to complete enrollment requirements at another university. Students who are enrolled in a graduate program at another university and want to take courses at UCF and transfer it to their home institution are considered transient students and nondegree-seeking at UCF.

Not all graduate degree programs at UCF allow students in Nondegree status to enroll in their courses. It is best to contact the program director for the graduate program that offers the course prior to applying.

Admission into Nondegree status does not guarantee admission to a graduate degree-seeking or certificate program at UCF. International students are not eligible for Nondegree status unless they hold an eligible visa. International students taking online courses from their home country are eligible to be nondegree seeking since they do not require a visa.

Please Note: In general, nondegree-seeking students are not eligible for financial aid, assistantships, or fellowships, although it is best to check with the Office of Student Financial Assistance for specific details. Nondegree-seeking students must be enrolled in 12 credit hours or more to be considered in full-time status.

APPLICATION REQUIREMENTS

In addition to completing the online application, Nondegree applicants will need to submit official, final transcripts from a regionally accredited institution showing a conferred bachelor's degree.

Nondegree seeking students will also be required to submit an Immunization Form prior to enrollment. Although this form is not used in the admission process, students will not be allowed to enroll at UCF without submitting the required Immunization Form.

Application Deadlines

Nondegree or Transient	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

Nursing Nondegree

PROGRAM DESCRIPTION

Nursing Nondegree students may take nursing graduate courses as a nondegree-seeking post-baccalaureate student on a space-available basis. See the Policies section of this Catalog for details on the possible use of these courses toward a degree. Completion of post-baccalaureate courses does not guarantee admission to the graduate program or their use in a degree program.

Students should choose the Nursing Nondegree option on the application to facilitate processing of files. Student may take nursing graduate classes as a nondegree-seeking post-baccalaureate student on a space-available basis. It is possible that no courses will have space available in a given semester as students in the graduate nursing programs receive priority for enrollment. Please contact the College of Nursing Graduate Office for registration assistance at gradnurse@ucf.edu.

International students are not eligible for this status unless they hold an eligible visa. International students taking online courses from their home country are eligible to be nondegree seeking since they do not require a visa.

Please Note: In general, Nursing Nondegree students are not eligible for financial aid, assistantships, or fellowships, although it is best to check with the Office of Student Financial Assistance for specific details. Nondegree-seeking students must be enrolled in 12 credit hours or more to be considered in full-time status.

CURRICULUM

Students can enroll in graduate nursing courses as nondegree on a space-available basis. Students will be required to complete and submit a Non-degree Student Registration Request Form to be registered. Students can only transfer courses taken in nondegree status with a "B" grade or better into a graduate nursing program. Transfer credit limitations apply to nondegree students and will vary depending on the program. Please refer to the Graduate Catalog for Policies related to nondegree seeking students and transfer of credit.

Nursing nondegree enrollment will be limited to the following courses:

- NGR 5800 Theory for Advanced Practice Nursing (3 credit hours)
- NGR 5141 Pathophysiological Bases for Advanced Practice Nursing (3 credit hours)
- NGR 5638 Health Promotion (3 credit hours)
- NGR 5720 Organizational Dynamics (3 credit hours)
- NGR 5871 Health Care Informatics (3 credit hours)

APPLICATION REQUIREMENTS

In addition to completing the online application, Nursing Nondegree applicants will need to submit official, final transcripts from a regionally accredited institution showing a conferred bachelor's degree and evidence of completion of a professional nurse education program (RN).

Nursing Nondegree students will also be required to submit an Immunization Form prior to enrollment. Although this form is not used in the admission process, students will not be allowed to enroll at UCF without submitting the required Immunization Form.

Application Deadlines

Nursing Nondegree	Fall Priority	Fall	Spring	Summer
Domestic Applicants		Jul 15	Dec 1	Apr 15
International Applicants				
International Transfer Applicants				

CONTACT INFO

Susan Chase EdD
Associate Dean
College Coordinator
gradnurse@ucf.edu
407-823-2744
Suite 300

COURSES

Courses listed here include all approved UCF graduate courses as of the date this Graduate Catalog was published (May 2016).

Availability of Courses. The university does not offer all of the courses listed in this Graduate Catalog each academic year, academic semester, or term. Consult the "Course Catalog Search" or "Class Schedule Search" at myUCF (https://my.ucf.edu) for those courses offered each term.

Understanding Course Info

Classification of Courses

- **3000-4999. Junior- and senior-level courses (Upper-division).** These courses contain advanced undergraduate level material and are designed primarily for undergraduate juniors and senior. When approved for inclusion in an individual program of graduate study by a supervisory committee approved by UCF College of Graduate Studies, selected 4000-4999 courses may serve the needs of individual graduate students.
- **5000-5999. Courses designed for graduate students.** Courses at the 5000 level are taken to satisfy graduate degree requirements. However, nondegree-seeking students and seniors may enroll in 5000-level courses with permission from the program.
- **6000-6999. Advanced graduate level courses.** These courses are designed to build upon the beginning graduate level courses and to deliver more advanced content and experiences. They are open only to graduate students. (Seniors, within nine hours of graduation that have a minimum 3.0 GPA and do not register for more than twelve hours may request college permission to take a 6000-level class.) Students in 3+2 programs (combined bachelors and masters programs) should check with their adviser before registering for 6000-level courses.
- **7000-7999. Doctoral-level courses.** These courses provide material at the most advanced graduate level. They are restricted to admitted doctoral students only.
- **8000-8999. Medical School courses.** These courses provide material for the Medical School curriculum. They are restricted to students in the Medical School.

Florida's Statewide Course Numbering System

Courses in this catalog are identified by prefixes and numbers that were assigned by Floridas Statewide Course Numbering System (SCNS). This numbering system is used by all public postsecondary institutions in Florida and 25 participating non-public institutions. The major purpose of this system is to facilitate the transfer of courses between participating institutions. Students and administrators can use the online Statewide Course Numbering System to obtain course descriptions and specific information about course transfer between participating Florida institutions. The information is at the SCNS website at http://scns.fldoe.org.

Each participating institution controls the title, credit, and content of its own courses and recommends the first digit of the course number to indicate the level at which students normally take the course. Course prefixes and the last three digits of the course numbers are assigned by members of faculty discipline committees appointed for that purpose by the Florida Department of Education in Tallahassee. Individuals nominated to serve on these committees are selected to maintain a representative balance as to type of institution and discipline field or specialization.

The course prefix and each digit in the course number have meaning in the Statewide Course Numbering System (SCNS). The list of course prefixes and numbers, along with their generic titles, is referred to as the "SCNS taxonomy." Descriptions of the content of courses are referred to as statewide course profiles.

Example of Course Identifier					
Prefix	Level Code (first digit)	Century Digit (second digit)	Decade Digit (third digit)	Unit Digit (fourth digit)	Lab Code
ENC	1	1	0	1	
English Composition	Lower(Freshman) level at this institution	Freshman Composition	Freshman Composition Skills	Freshman Composition Skills I	No laboratory component in this course

General Rule for Course Equivalencies

Equivalent courses at different institutions are identified by the same prefixes and same last three digits of the course number and are guaranteed to be transferable between participating institutions that offer the course, with few exceptions. (Exceptions are listed below.)

For example, a freshman composition skills course is offered by 84 different public and non-public postsecondary institutions. Each institution uses ENC 101 to identify its freshman composition skills course. The level code is the first digit and represents the year in which students normally take this course at a specific institution. In the SCNS taxonomy, ENC means English Composition, the century digit 1 represents Freshmen Composition, the decade digit 0 represents Freshman composition Skills, and the unit digit 1 represents Freshman Composition Skills I.

In the sciences and other areas, a C or L after the course number is known as a lab indicator. The C represents a combined lecture and laboratory course that meets in the same place at the same time. The L represents a laboratory course or the laboratory part of a course, having the same prefix and course number without a lab indicator, which meets at a different time or place.

Transfer of any successfully completed course from one institution to another is guaranteed in cases where the course to be transferred is equivalent to one offered by the receiving institution. Equivalencies are established by the same prefix and last three digits and comparable faculty credentials at both institutions. For example, ENC 1101 is offered at a community college. The same course is offered at a state university as ENC 2101. A student who has successfully completed ENC 1101 at the community college is guaranteed to receive transfer credit for ENC 2101 at the state university if the student transfers. The student cannot be required to take ENC 2101 again since ENC 1101 is equivalent to ENC 2101. Transfer credit must be awarded for successfully completed equivalent courses and used by the receiving institution to determine satisfaction of requirements by transfer students on the same basis as credit awarded to the native students. It is the prerogative of the receiving institution, however, to offer transfer credit for courses successfully completed which have not been designated as equivalent. Note: Credit generated at institutions on the quarter-term system may not transfer the equivalent number of credits to institutions on the semester-term systems. For example, 4.0 quarter hours often transfers as 2.67 semester hours.

The Course Prefix

The course prefix is a three-letter designator for a major division of an academic discipline, subject matter area, or subcategory of knowledge. The prefix is not intended to identify the department in which a course is offered. Rather, the content of a course determines the assigned prefix used to identify the course.

Course Prefixes

Authority for Acceptance of Equivalent Courses

Section 1007.24(7), Florida Statutes, states:

"Any student who transfers among postsecondary institutions that are fully accredited by a regional or national accrediting agency recognized by the United States Department of Education and that participate in the statewide course numbering system shall be awarded credit by the receiving institution for courses satisfactorily completed by the student at the previous institutions. Credit shall be awarded if the courses are judged by the appropriate statewide course numbering system faculty committees representing school districts, public postsecondary educational institutions, and participating nonpublic postsecondary educational institutions to be academically equivalent to courses offered at the receiving institution, including equivalency of faculty credentials, regardless of the public or nonpublic control of the previous institution. The Department of Education shall ensure that credits to be accepted by a receiving institution are generated in courses for which the faculty possesses credentials that are comparable to those required by the accrediting association of the receiving institution. The award of credit may be limited to courses that are entered in the statewide course numbering system. Credits awarded pursuant to this subsection shall satisfy institutional requirements on the same basis as credits awarded to native students."

Exceptions to the General Rule for Equivalency

Since the initial implementation of the SCNS, specific disciplines or types of courses have been excepted from the guarantee of transfer fo requivalent courses. These include varying topics courses that must be evaluated individually, or applied courses in which the student must be evaluated for mastery of skill and technique. The following courses are exceptions to the general rule for course equivalencies and may not transfer. Transferability is at the discretion of the receiving institution:

A. Courses not offered by receiving institution
B. For courses non-regionally accredited institutions, courses offered prior to the established transfer date of the the course in question.
C. Courses in the 900-999 series are not automatically trnsferable, and must be evaluated individually. These include such courses as Special Topics, Internships, Practica, Study Abroad, Thesis, and Dissertations.
D. Applied academics for adult education courses
E. Graduate courses
F. Internships, practica, clinical experiences, and study abroad courses with numbers other than those ranging form 900-999.
G. Applied courses in the performing arts (Art, Dance, Interior Design, Music, and Theater) and skills courses in Criminal Justice (academy certificate courses) are not guaranteed as transferable.These courses need evidence of achievement (e.g., portfolio, audition, interview, etc.).

Courses at Nonregionally Accredited Institutions

The Statewide Course Numbering System makes available on its home page (http://scns.fldoe.org) a report entitled "Courses at Nonregionally Accredited Institutions" that contains a comprehensive listing of all nonpublic instituion courses in the SCNS inventory, as well as each course's transfer level and transfer effective date. This report is updated monthly.

Questions about the Statewide Course Numbering System and appeals regarding course credit transfer decisions should be directed to Associate Dean, in Undergraduate Studies, Millican Hall 210, University of Central Florida, 4000 Central Florida Parkway, Orlando, FL 32816, Phone (407) 823-2691, or the Florida Department of Education, Office of Articulation, 1401 Turlington Building, Tallahassee, Florida 32399-0400. Special reports and technical information may be requested by calling the Statewide Course Numbering System office at (850) 245-0427 or via the internet at http://scns.fldoe.org.

Special Courses

In addition to the regular courses listed in this catalog, special courses may be available. Consult an academic adviser for details. Only admitted graduate students may take special courses except the Special Topics/Seminars (5937 and 6938), which are open to eligible students with instructor permission.

In order to register for any of the special numbers below, a student must present a signed Registration Agreement form obtained from the Department or College.

	Special Grad	Grad and Prof
Directed Independent Studies	5907	6908
Directed Research	5917	6918
Special Topics/Seminars	5937	6938
Internships, Practica, Clinical Practice	5944	6946
Cooperative Education	5949	
Study Abroad	5957	6958
Research Report		6909
ThesisMaster's		6971
ThesisSpecialist		6973
Doctoral Research		7919
Doctoral Special Topics/Seminars		7939
Doctoral Dissertation		7980

These courses may be assigned variable credit. Some may be repeated upon approval.

Abbreviations in Course Descriptions

- **PR** - Prerequisite, a course that must be taken and passed prior to enrollment in the listed course.
- **CR** - Corequisite, a course that must be taken concurrently with or prior to the listed course.
- **C.I.** - Registration is contingent upon the Consent of the Instructor.

Hours Code

Each course listed is followed by a code that shows hours of credit and contact hours.

Example

ECI 5215C ECS-CEE 3(2,3)

ECI 5215C is offered by the College of Engineering and Computer Science (ECS) in the Civil and Environmental Engineering (CEE) Department, carries 3 hours of credit, but requires 5 contact hours, which consist of 2 hours in class and 3 hours laboratory or field work.

College/Department Indicator

Course Prefixes

Prefix	Description
AAE	Applied Academics for Adult Education
ABE	Agricultural and Biological Engineering
ACG	Accounting: General
ADE	Adult Education
ADV	Advertising
AEB	Agriculture Economics
AEC	Agriculture Economics and Communication
AFA	Afro-American Studies
AFH	African History
AMH	American History
AML	American Literature
ANG	Anthropology: Graduate
APK	Applied Kinesiology
ARE	Art Education
ARH	Art History
ART	Art
ASH	Asian History
AST	Astronomy
BCC	Basic Clinical Clerkships (Required)
BCH	Biochemistry (Biophysics)
BME	Biomedical Engineering
BMS	Basic Medical Sciences
BOT	Botany
BSC	Biological Sciences
BTE	Business Teacher Education
BUL	Business Law
CAP	Computer Applications for Computer Scientists
CCE	Civil Construction Engineering
CCJ	Criminology and Criminal Justice
CDA	Computer Design/Architecture
CEG	Civil Geotechnical Engineering
CEN	Computer Engineering
CES	Civil Engineering Structures
CET	Computer Engineering Technology
CGN	Civil Engineering
CGS	Computer General Studies
CHM	Chemistry
CHS	Chemistry: Specialized
CIS	Computer Science and Information Systems

CJC	Corrections	ECS	Economic Systems and Development
CJE	Law Enforcement	ECT	Education: Career/Technical
CJJ	Juvenile Justice	ECW	Education: Career/Workforce
CJL	Law and Process	EDA	Educational Administration
CLP	Clinical Psychology	EDE	Education: Elementary
CNT	Computer Networks	EDF	Education: Foundations and Policy Studies
COM	Communication	EDG	Education: General
COP	Computer Programming	EDH	Education: Higher
COT	Computing Theory	EDM	Education: Middle School
CPO	Comparative Politics	EDP	Educational Psychology
CRW	Creative Writing	EDS	Education Supervision
CWR	Civil Water Resources	EEC	Education: Early Childhood
CYP	Community Psychology	EEE	Engineering: Electrical and Electronic
DEP	Developmental Psychology	EEL	Engineering: Electrical
DIG	Digital Media	EES	Environmental Engineering Science
EAB	Experimental Analysis of Behavior	EEX	Education: Exceptional Child: Core Compet.
EAS	Aerospace Engineering	EGC	Counselor Education
EBD	Education: Emotional/Behavior Disorders	EGI	Education: Gifted
ECM	Engineering: Computer Math	EGM	Engineering Science
ECO	Economics	EGN	Engineering: General
ECP	Economic Problems and Policy	EIN	Industrial Engineering

ELD	Education: Specific Learning Disabilities	EVT	Education: Vocational/Technical
EMA	Materials Engineering	EXP	Experimental Psychology
EME	Education: Technology and Media	FIL	Film
EML	Engineering: Mechanical	FIN	Finance
EMR	Education: Mental Retardation	FLE	Foreign Language Education
ENC	English Composition	FSS	Food Service Systems
ENG	English: General	GEB	General Business
ENL	English Literature	GEO	Geography: Systematic
ENT	Entrepreneurship	GEY	Gerontology
ENV	Engineering: Environmental	HFT	Hospitality Management
ENY	Entomology	HIM	Health Information Management
EPD	Education: Physical and Multiple Disabilities	HIS	General History and Histriography
EPH	Education: Physical and Multiple Handicapped	HMG	Hospitality Management Graduate
ESE	Education: Secondary	HSA	Health Services Administration
ESI	Industrial/Systems Engineering	HSC	Health Sciences
ETE	Education: Technology Education	HUM	Humanities
ETG	Engineering Technology: General	HUN	Human Nutrition
ETI	Engineering Technology: Industrial	IDS	Interdisciplinary Studies
ETP	Engineering Technology: Power	IFS	Interdisciplinary Florida State University Courses
EUH	European History	INP	Industrial and Applied Psychology
EVR	Environmental Studies	INR	International Relations

ISC	Interdisciplinary Sciences
ISM	Information Systems Management
LAE	Language Arts and English Education
LAH	Latin American History
LEI	Leisure
LIN	Linguistics
LIT	Literature
MAA	Mathematics: Analysis
MAD	Mathematics: Discrete
MAE	Mathematics Education
MAN	Management
MAP	Mathematics Applied
MAR	Marketing
MAS	Mathematics: Algebraic Structures
MAT	Mathematics
MCB	Microbiology
MDC	Medicine Clinical Clerkships
MDE	Medical Electives
MDI	Medical Internships
MDR	Medical Research
MDS	Medical Selectives
MDX	Medical Externships
MEL	Medical Science Electives
MHS	Mental Health Services
MLS	Medical Laboratory Science
MMC	Mass Media Communication
MTG	Mathematics: Topology and Geometry
MUC	Music: Composition
MUE	Music Education
MUG	Music: Conducting
MUH	Music: History/Musicology
MUL	Music Literature
MUM	Music: Commercial/Management/Administration
MUN	Music Ensembles
MUO	Music: Opera/Musical Theatre
MUS	Music
MUT	Music: Theory
MVB	Applied Music: Brasses
MVJ	Applied Music: Jazz
MVK	Applied Music: Keyboard
MVO	Applied Music: Other
MVP	Applied Music: Percussion

MVS	Applied Music: Strings	POS	Political Science
MVV	Applied Music: Voice	POT	Political Theory
MVW	Applied Music: Woodwinds	PPE	Personality
NGR	Nursing: Graduate	PSB	Psychobiology
NSP	Nursing: Special	PSY	Psychology
OSE	Optical Science and Engineering	PUP	Public Policy
PAD	Public Administration	PUR	Public Relations
PAF	Public Affairs	QMB	Quantitative Methods in Business
PAZ	Parks and Zoos	RED	Reading Education
PCB	Process Biology (Cell/Molecular/etc.)	REE	Real Estate
PEM	Phys. Edu. Acts. (Gen): Perform. Centered, Land	RET	Respiratory Care
PEO	Phys. Edu. Acts. (Prof.): Object Centered, Land	RLG	Religion - Graduate
PET	Physical Education Theory	SCE	Science Education
PGY	Photography	SDS	Student Development Services
PHC	Public Health Concentration	SOP	Social Psychology
PHI	Philosophy	SOW	Social Work
PHM	Philosophy of Man and Society	SPA	Speech Pathology and Audiology
PHT	Physical Therapy	SPB	Sport Business
PHY	Physics	SPC	Speech Communication
PHZ	Physics (Continued)	SPM	Sports Management
PLA	Paralegal/Legal Assistant/Legal Administration	SPN	Spanish Language

SPS	School Psychology
SPW	Spanish Literature (Writings)
SSE	Social Studies Education
STA	Statistics
SYA	Sociological Analysis
SYD	Sociology: Demography/Area Studies/Minorities
SYG	Sociology, General
SYO	Social Organization
SYP	Social Processes
TAX	Taxation
THE	Theatre Studies and General Resources
TPA	Theatre Production and Administration
TPP	Theatre Performance and Performance Training
TSL	Teaching English as a Second Language
TTE	Transportation Engineering
URP	Urban and Regional Planning
URS	Urban and Regional Studies
WST	Women's Studies
ZOO	Zoology

College/Department Indicator

Following the course number for each course is an indicator denoting the college and department responsible for the course. The college designators are BA = College of Business Administration, CAH = College of Arts and Humanities, COM = College of Medicine, CON = College of Nursing, COS = College of Sciences, ED = College of Education and Human Performance, ECS = College of Engineering and Computer Science, and HPA = College of Health and Public Affairs, OPT = College of Optics and Photonics, and RCHM = Rosen College of Hospitality Management.

College	Abbreviation	Department
BA	ACCT	Accounting
CAH	AS	Africana Studies
COS	ANTHRO	Anthropology
BA	BA	Business
COS	BIOL	Biology
COM	BSBS	Burnett School of Biomedical Sciences
BA	BUS	College-BA
CAH	CAH	College-CAH
COS	CHEM	Chemistry
ED	CFCS	Child, Family & Comm Sci
ECS	CECE	Civil, Env & Const. Eng
HPA	COM SC&DIS	Commun Sci & Disorders
COS	COMM	Communication
COS	COS	Sciences
ECS	CS	Computer Science
HPA	CJ	Criminal Justice
ECS	ECE	Electrical & Computer Eng
BA	ECON	Economics
ECS	ECS	Engineering
ED	ED	College-ED
ED	E&HS	Educational & Human Sci
ECS	ENT	Engineering Technology
CAH	ENG	English
CAH	FIEA	FL Interactive Entertain Academy
BA	FIN	Finance

RCHM	FOOD&LODG	Foodservices and Lodging Managment
CAH	HIST	History
HPA	HMI	Health Management & Informatics
RCHM	HOS	Hospitality Operations
HPA	HP	Health Professions
HPA	HPA	College-HPA
RCHM	HSP SERV	Hospitality Services
ECS	IEMS	Industrial Eng & Management Systems
CAH	IDS	Interdisciplinary
GRDST	INTERDISC	Interdisciplinary Studies
CAH	LANG	Modern Languages
HPA	LS	Legal Studies
BA	MAN	Management
BA	MAR	Marketing
COS	MATH	Mathematics
ECS	MECH/AERO	Mechanical & Aerospace Engineering
COM	MED	Medicine
BA	MIS	Management Inform. System
ECS	MSE	Materials Sci & Engineering
CAH	MUSIC	Music
CON	NURS	Nursing
OPT	OPT	Optics
CAH	PHIL	Philosophy
COS	PHYS	Physics
COS	POLS	Political Science
COS	PSYCH	Psychology
HPA	PUB	Public Administration
HPA	PUB AFF	Public Affairs
RCHM	RCHM	College-Hosptality Manag
HPA	SOWK	Social Work
COS	SOC	Sociology
COS	STAT	Statistics & Actuarial Sc

CAH	SVAD	School of Visual Arts & Design
RCHM	TEA	Tourism, Events & Attract
CAH	THEA	Theatre
ED	TL&L	Teach, Learn & Leadership
CAH	WOM	Women's Studies
CAH	WRITE	Writing & Rhetoric

Course Listing

ACG 6065. Accounting Foundations
3(3,0) PR: Graduate standing. To provide students with a basic understanding of accounting information used for investor and managerial decision making.
Spring,Summer
BA - Kenneth G. Dixon School of Accounting

ACG 6185. Financial Statement Analysis
3(3,0) Graduate standing and completion of all business and accounting foundation core courses. Analysis of business and financial information to develop financial analysis abilities and enhance understanding of the relationships between business strategies, processes, and financial information.
Fall,Spring
BA - Kenneth G. Dixon School of Accounting

ACG 6255. International and Multinational Accounting
3(3,0) PR: Graduate standing and completion of all business and accounting foundation core courses or equivalent. An examination of the environmental factors affecting international accounting concepts and standards. Cross-country differences in accounting treatments are compared.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 6305. Advanced Managerial Accounting
3(3,0) Graduate standing and completion of all business and accounting foundation core courses. Advanced and current techniques for generation and use of accounting information in managerial decision-making.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 6415. Advanced Accounting Information Systems
3(3,0) Graduate standing and completion of all business and accounting foundation core courses. Evaluation of the overall risk to critical accounting and business processes posed by information technology.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 6425. Managerial Accounting Analysis
3(3,0) PR: CBA Master's Program of Study Foundation Core (not open to Accounting majors). Accounting as an information measurement system for internal planning and control.
Fall,Spring
BA - Kenneth G. Dixon School of Accounting

ACG 6519. Governmental and Nonprofit Accounting
3(3,0) Graduate standing and completion of all business and accounting foundation core courses. Examination of current issues and advanced topics in governmental and nonprofit accounting with emphasis on public policy issues and governmental budgeting.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 6636. Advanced Auditing
3(3,0) Graduate standing and completion of all business and accounting foundation core courses. Advanced topics on independent, external auditing including internal control, evidence, reporting, and operational auditing.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 6675. Operational Auditing
3(3,0) Graduate standing and completion of all business and accounting foundation core courses. In depth study of the standards, principles, practices, and procedures followed in the internal audit function.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 6685. Fraud Auditing
3(3,0) Graduate standing and completion of all business and accounting foundation core courses. Theory and techniques relating to fraud auditing and fraud examination.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 6805. Accounting Theory
3(3,0) Graduate standing and completion of all business and accounting foundation core courses. An examination of the evolution of contemporary accounting theory with emphasis on current and future developments.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 6835. Ethics and Professionalism in Accounting and Auditing
3(3,0) Graduate standing and completion of all business and accounting foundation core courses. This course focuses on why and how theories of the professions and theories of individual ethical decision-making are applicable to the practice of accounting.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 7157. Seminar in Archival Research in Accounting
3(3,0) PR: Approval of instructor and PhD program coordinator. Extensive coverage of archival literature dealing with auditing, financial accounting, accounting regulation, and related accounting research.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 7399. Seminar in Behavioral Accounting Research
3(3,0) PR: Admission to doctoral program, ACG 7157, and C.I. Extensive study of the theoretical aspects and empirical literature related to accounting-based judgement/decision processes and the behavioral implications of accounting.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 7826. Seminar in the Social and Organizational Context of Accounting
3(3,0) PR: Instructor and PhD program coordinator consent. This course provides the student with an appreciation for the body of accounting knowledge that investigates accounting as a practice carried out within social and organizational contexts.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 7837. Foundations in Behavioral Accounting Research
3(3,0) PR: C.I. and PhD Program Coordinator Consent. Foundation in behavioral theory development and research design applicable to studying the individual and organizational aspects of accounting.
Odd Fall
BA - Kenneth G. Dixon School of Accounting

ACG 7885. Research Foundations in Accounting
3(3,0) PR: Instructor and PhD program coordinator consent. This course provides doctoral students with an intellectual foundation in research and research methods that are applicable in the study of accounting.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 7887. Accounting Research Forum
1(1,0) PR: Admission to doctoral program. Research and pedagogical issues in accounting, including research presentations by faculty, doctoral students, and invited scholars. May be taken for 4 hours credit.
Fall,Spring
BA - Kenneth G. Dixon School of Accounting

ACG 7888. Seminar in Critical Accounting and AIS
3(3,0) PR: Instructor and PhD program coordinator consent. This course provides an in-depth understanding of the critical accounting and AIS literature and the knowledge and skills necessary to undertake scholarly research in the area.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 7915. Directed Research in Accounting
3(3,0) PR: GEB 7910 and C.I. Advanced study in specialized areas of accounting research. Study designed to lead toward publishable research or student's dissertation. By definition, topical areas will vary.
Occasional
BA - Kenneth G. Dixon School of Accounting

ACG 7917. Advanced Research Methods in Accounting and Accounting Information Systems Rch
3(3,0) PR: Approval of instructor and PhD program coordinator. Advanced study in specialized areas of accounting and AIS research. By definition, topical areas will vary.
Occasional
BA - Kenneth G. Dixon School of Accounting

ADE 6678. The Socio-Historical Context of Adult Education
3(3,0) Graduate standing or C.I. An overview of adult education examining the historical and philosophical roots, the current social context and the multiple disciplinary perspectives that inform the field.
Odd Fall
ED - Department of Child, Family and Community Sciences

ADV 6209. Advertising and Society
3(3,0) A study of the social and ethical impact of advertising focusing on the development and presentation of advertising messages.
Occasional
COS - Nicholson School of Communication

AFH 5259. Colloquium in African History
3(3,0) PR: Graduate standing or C.I. Readings on selected topics in African History. May be used in the degree program a maximum of 3 times.
Odd Fall
CAH - Department of History

AFH 5806. The Historiography of Slavery in Africa
3(3,0) PR: Graduate standing or senior standing or C.I. Course covers the central issues and controversies in the historiography of slavery in Africa.
Occasional
CAH - Department of History

AMH 5077. Colloquium in Twentieth Century Tourism
3(3,0) Graduate standing or C.I. Examines the historiography and major themes in the history of tourism scholarship.
Occasional
CAH - Department of History

AMH 5116. Colloquium in U.S. Colonial History
3(3,0) PR: Graduate standing or senior standing or C.I. Reading and discussion of the literature on selected topics in colonial American history. May be used in the degree program a maximum of 4 times.
Occasional
CAH - Department of History

AMH 5137. Colloquium in U.S. Revolutionary Period
3(3,0) PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics in the Revolutionary Era, 1763-1789.
Occasional
CAH - Department of History

AMH 5149. Colloquium in Early U.S. History, 1789-1815
3(3,0) PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics of the early national period.
Occasional
CAH - Department of History

AMH 5169. Colloquium in Age of Jackson
3(3,0) PR: Graduate standing or senior standing or C.I. Intensive reading and class discussion on selected topics of the Jacksonian age.
Occasional
CAH - Department of History

AMH 5176. Colloquium in Civil War and Reconstruction
3(3,0) PR: Graduate standing or senior standing or C.I. Intensive reading and class discussion on selected topics of the Civil War and Reconstruction era.
Occasional
CAH - Department of History

AMH 5219. Colloquium in Late 19th Century U.S.
3(3,0) PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics of late 19th century U.S.
Occasional
CAH - Department of History

AMH 5296. Colloquium in 20th Century U.S.
3(3,0) PR: Graduate standing or senior standing or C.I. Reading and class discussion on selected topics in 20th-century U.S. May be used in the degree program a maximum of 4 times.
Occasional
CAH - Department of History

AMH 5378. History of Technology
3(3,0) PR: Graduate standing or C.I. Introduces the historiography of technology's role in historical events, and society's role in shaping technology.
Even Summer
CAH - Department of History

AMH 5391. Colloquium in U.S. Cultural History
3(3,0) PR: Graduate standing or senior standing or C.I. Students will read and discuss a common or diverse body of the significant literature in the field.
Occasional
CAH - Department of History

AMH 5406. Colloquium in American South
3(3,0) PR: Graduate standing or senior standing or C.I. Intensive reading and class discussion on selected topics of Southern history from colonial origins to the present.
Occasional
CAH - Department of History

AMH 5446. Colloquium in U.S. Frontier
3(3,0) PR: Graduate standing or senior standing or C.I. Reading and class discussion of the literature on selected topics of frontier history.
Occasional
CAH - Department of History

AMH 5566. Colloquium: Women in American History
3(3,0) PR: Graduate standing or senior standing or C.I. Intensive reading and class discussion on selected topics of Women in American History from colonial time to the present.
Occasional
CAH - Department of History

AMH 5636. Colloquium in US Environmental History
3(3,0) Graduate standing or C.I. Evolution of historical texts and methodologies for understanding nature-human interaction and how access to resources shaped human opportunity, from colonization to the present.
Occasional
CAH - Department of History

AMH 5925. Colloquium in US Military History
3(3,0) PR: Graduate standing or C.I. Readings in selected topics in United States military history. May be used in the degree program a maximum of 3 times only when course content is different.
Occasional
CAH - Department of History

AMH 6346. Seminar in the History of American Automobility
3(3,0) Graduate standing or C.I. Readings and research in the development of American automobility.

CAH - Department of History

AMH 6429. Seminar in Community and Local History
3(3,0) PR: Graduate standing. This seminar will introduce students to historiography, methodology and first hand experience on conducting a community history based on local and church archives.
Occasional
CAH - Department of History

AMH 6592. Seminar in Oral History
3(3,0) Graduate standing. This course is designed to expose students to the use of oral history as a research technique and to provide experience in conducting professional oral history interviews.
Occasional
CAH - Department of History

AMH 6939. Seminar in U.S. History
3(3,0) Research seminar on selected topics in U.S. history. May be repeated for credit only when course content is different.
Occasional
CAH - Department of History

ANG 5094. Writing in Anthropology
3(3,0) Admission to the Ph.D. in Integrative Anthropological Sciences or MA in Anthropology programs, or C.I. Develop scholarly writing skills specific to anthropology in terms of engagement with literature, crafting of arguments, as well as the style of expression and quoting.
Fall
COS - Department of Anthropology

ANG 5100. Archeological Sciences
3(3,0) PR: Admission to Anthropology M.A., Maya Studies graduate certificate, or C.I. Field and laboratory methods routinely used in archeology and forensic archeology, including instrumentation.
Occasional
COS - Department of Anthropology

ANG 5166. Problems in Maya Studies
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. In-depth study of current methodological, theoretical, and/or topical problems in Maya Studies.
Occasional
COS - Department of Anthropology

ANG 5167. Maya Hieroglyphs
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. The study of Maya writing, the translation of Maya hieroglyphs, and the significance of translations to reconstructions of ancient Maya culture.
Even Summer
COS - Department of Anthropology

ANG 5188. Paleoethnobotany
3(3,0) Admission to Anthropology MA program or C.I. Knowledge and understanding of paleoethnobotany sufficient to understand, interpret, and evaluate plant data in archaeological, paleoecological, and contemporary research.
Odd Spring
COS - Department of Anthropology

ANG 5191. Mortuary Archaeology
3(3,0) Admission to Anthropology MA, Maya Studies GC, or C.I. Funerary customs and human remains; basic data collection, skeletal analysis, and comparative study of mortuary ritual-ancient and modern.
Occasional
COS - Department of Anthropology

ANG 5228. Maya Iconography
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Study and interpretation of ancient Maya iconography as reflected in art, artifacts, and constructed features.
Odd Spring
COS - Department of Anthropology

ANG 5272. Culture, Inequality and Global Development
3(3,0) PR: Admission to Anthropology M.A., Maya Studies graduate certificate, or C.I. Origins and contemporary ramifications of underdevelopment and disempowerment in the world system from an anthropological perspective.
Occasional
COS - Department of Anthropology

ANG 5301. Anthropology of Tourism
3(3,0) PR: Admission to Anthropology M.A., Maya Studies graduate certificate, or C.I. Anthropology of tourism in U.S. and world regions, including impacts on local peoples, cultures, and environments.
Occasional
COS - Department of Anthropology

ANG 5486. Quantitative Research in Anthropology
3(3,0) PR: Admission to the MA in Anthropology program, Maya Studies graduate certificate, or C.I. Quantitative approaches to problems in anthropology, including multivariate systems, assessment of reliability, and approaches for small samples.
Even Fall
COS - Department of Anthropology

ANG 5525C. Human Osteology
4(3,1) Admission to the Anthropology M.A. program or C.I. The human skeleton and the methodology and techniques involved in the anthropological assessment of skeleton remains.
Fall
COS - Department of Anthropology

ANG 5531. Nutritional Anthropology
3(3,0) Admission to Anthropology M.A., Maya Studies GC, or C.I. The biological, social, cultural, psychological, and environmental influences of food consumption and physiological status. Perspectives are cross-cultural, evolutionary, ecological.
Occasional
COS - Department of Anthropology

ANG 5620. Language and Culture
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Language as an integral part of human culture and behavior, focusing on cross cultural issues that affect cultural competency.
Occasional
COS - Department of Anthropology

ANG 5738. Advanced Medical Anthropology
3(3,0) PR: Admission to Anthropology MA, Maya Studies Graduate certificate, or C.I. Advanced topics in ethnography of medical traditions and anthropological approaches to the study of health and disease.
Occasional
COS - Department of Anthropology

ANG 5742. Problems in Forensic Anthropology
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Current issues and topics in forensic anthropology.
Even Spring
COS - Department of Anthropology

ANG 5822. Maya Field Research
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Practical application of method and theory during primary infield research in the Maya area.
Spring
COS - Department of Anthropology

ANG 5852. GIS Methods in Anthropology
3(3,0) Admission to Anthropology MA or GIS certificate. Overview to Geographic Information Systems (GIS) methods from an anthropological perspective.
Even Fall
COS - Department of Anthropology

ANG 5853. Advanced GIS Methods in Anthropology
3(3,0) ANG 5852 and admission to Anthropology MA program or GIS certificate, or C.I. Advanced methods to Geographic Information Systems (GIS) from an anthropological perspective.
Odd Spring
COS - Department of Anthropology

ANG 6002. Proseminar in Anthropology
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Central concepts, theories, resources, and methods fundamental to cultural anthropology, human ecology, physical anthropology, and archaeology.
Occasional
COS - Department of Anthropology

ANG 6003. Ethics in Anthropology
3(3,0) Admission to the Ph.D. in Integrative Anthropological Sciences or M.A. in Anthropology programs or C.I. Ethical issues and concepts practitioners of integrative anthropological sciences confront across various academic, research, and public domains.
Occasional
COS - Department of Anthropology

ANG 6021. Advanced Topics in Environmental Transformations
3(3,0) Admission to the Ph.D. in Integrative Anthropological Sciences or M.A. in Anthropology programs, or C.I. Anthropological, archaeological, ecological, and geographical approaches to understanding human interactions with landscapes and environments through time.
Odd Spring
COS - Department of Anthropology

ANG 6110. Archaeological Theory and Method
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. History and current theory and methods used by archaeologists to interpret past behavior.
Fall
COS - Department of Anthropology

ANG 6125C. Applied Materials Analysis in Anthropological Sciences
3(3,0) Admission to the Ph.D. in Integrative Anthropological Sciences and M.A. in Anthropology programs or C.I. Techniques used for analysis of biological and man-made materials, the interpretation of results produced, and their impact on the reconstruction of human biology and history.
Even Fall
COS - Department of Anthropology

ANG 6144. Contemporary Problems in the Study of Complex Societies
3(3,0) Admission to the Ph.D. in Integrative Anthropological Sciences or M.A. in Anthropology programs or C.I. Examination of the processes that fostered the rise of complex societies, including the dynamics behind cultural evolution, societal expansion, and collapse.
Occasional
COS - Department of Anthropology

ANG 6168. The Ancient Maya
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Overview of the archaeology of the ancient Maya of Mexico, Belize, Guatemala, and upper Mexico.
Odd Fall
COS - Department of Anthropology

ANG 6181C. GIS Applications in Anthropology
3(2,2) PR: Admission to Anthropology MA program, Maya Studies graduate certificate, or C.I. Application of geographic information systems methodology for the documentation and analysis of anthropological, archeological and forensic problems.
Spring
COS - Department of Anthropology

ANG 6184. Advances in Archaeological Practice
3(3,0) Admission to the Ph.D. in Integrative Anthropological Sciences or M.A. in Anthropology programs or C.I. Topics concerning cultural resource management as a professional field within anthropology, and specifically, anthropological archaeology.
Occasional
COS - Department of Anthropology

ANG 6324. Contemporary Maya
3(3,0) PR: Admission to Anthropology M.A. program, Maya Studies graduate certificate, or C.I. Overview of the cultures and peoples comprising the contemporary Maya of Central America.
Even Fall
COS - Department of Anthropology

ANG 6405. Food Security and Sustainability
3(3,0) Admission to the Ph.D. in Integrative Anthropological Sciences or M.A. in Anthropology programs or C.I. Global concepts of food security and sustainability including an examination of the social, economic, and environmental dimensions of how humans produce and consume food.
Occasional
COS - Department of Anthropology

ANG 6411. Business Practices for the Anthropological Sciences
3(3,0) Admission to the Ph.D. in Integrative Anthropological Sciences or M.A. in Anthropology programs or C.I. Examination of the culture and philosophy of business management, introducing business concepts and practices within anthropological sciences.
Occasional
COS - Department of Anthropology

ANG 6466. Contemporary Problems in the Anthropology of Mental Health
3(3,0) Admission to the Ph.D. in Integrative Anthropological Sciences or M.A. in Anthropology programs or C.I. The study of mental health and mental illness from the perspective of practitioners, researchers and psychological/psychiatric anthropologists.
Odd Fall
COS - Department of Anthropology

ANG 6467. Advanced Topics in Medical Anthropology
3(3,0) Admission to Ph.D. in Integrative Anthropological Sciences or M.A. in Anthropology programs, or C.I. Examination of advanced topics in the cultural construction of health and illness.
Even Spring
COS - Department of Anthropology

ANG 6498. Advanced Qualitative Methods in Anthropology
3(3,0) ANG 6801 and Admission to the Ph.D. in Integrative Anthropological Sciences Ph.D. program or C.I. Advanced qualitative methods including data collection and analysis, writing ethnographies, and research presentation.
Spring
COS - Department of Anthropology

ANG 6520C. Advanced Human Osteology
3(2,2) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Advanced seminar on methods and theory pertaining to the study of the human skeleton.
Occasional
COS - Department of Anthropology

ANG 6536. Advances in Bioarchaeology
3(3,0) ANG 6520C and Admission to the Ph.D. in Integrative Anthropological Sciences or M.A. in Anthropology programs or C.I. Advanced bioarchaeological analysis of cultural and historical processes that affect human skeletal remains.
Odd Fall
COS - Department of Anthropology

ANG 6587. Seminar in Biological Anthropology
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Topics in biological anthropology including focus on human biological variation and adaptation.
Occasional
COS - Department of Anthropology

ANG 6701. Public & Applied Anthropology
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Anthropological perspectives and methods in the resolution of human problems in a cross-cultural setting, including issues of achieving cultural competence in a globalizing world.
Odd Fall
COS - Department of Anthropology

ANG 6740C. Advanced Forensic Anthropology
3(2,2) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Advanced theory and laboratory methods in forensic anthropology, including forensic skeletal analysis and interpretation.
Occasional
COS - Department of Anthropology

ANG 6801. Ethnographic Research Methods
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Ethnographic research techniques and praxis: data collection and analysis, writing ethnographies, and research presentation.
Occasional
COS - Department of Anthropology

ANG 6821. Forensic Archeology Field Methods
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Application of archeological techniques to the search, recovery, excavation and documentation of modern human remains.
Occasional
COS - Department of Anthropology

ANG 6930. Seminar in Cultural Anthropology
3(3,0) PR: Admission to Anthropology MA, Maya Studies GC, or C.I. Theoretical foundations and contemporary issues in the study of living cultures.
Occasional
COS - Department of Anthropology

ANG 6931. Science, Technology, and the Transformation of Human Societies
3(3,0) Admission to the Ph.D. in Integrative Anthropological Sciences or M.A. in Anthropology programs or C.I. Scientific methods and technology as they affect social transformation within the integrative anthropological sciences.
Fall
COS - Department of Anthropology

ANG 7075. Advanced Anthropological Topics in Geospatial Analysis
3(3,0) ANG 5852, ANG 5853, and Admission to the Ph.D. in Integrative Anthropological Sciences program or C.I. Advanced application of geographic information systems methodology for the documentation and analysis of anthropological, archaeological, and forensic problems.
Spring
COS - Department of Anthropology

ANG 7184C. Applied Integrative Isotopic Sciences
3(3,0) Admission to the Ph.D. in Integrative Anthropological Sciences program or C.I. Theoretical and methodological approaches to stable isotope analysis and its application in the interpretation of human migration, diet, disease, environment, and physiology.
Even Spring
COS - Department of Anthropology

ANG 7496. Advanced Quantitative Methods in Anthropology
3(3,0) ANG 5486 and Admission to the Ph.D. in Integrative Anthropological Sciences program or C.I. Advanced quantitative methods in anthropology, including multivariate systems, assessment of reliability, and approaches for small samples.
Spring
COS - Department of Anthropology

APK 7139. Exercise Biochemistry Techniques
3(3,0) PR: Admission to M.S. in Sport and Exercise Science--Applied Exercise Physiology track or the Ph.D. in Education--Exercise Physiology track. A course in laboratory instrumentation and methodologies for determining the composition of biological samples. Focuses on application and interpretation of methodologies.
Occasional
ED - Department of Educational and Human Sciences

ARE 5251. Art for Exceptionalities
3(2,1) Concepts, principles, and methods of integrating art processes into the education of the physically, emotionally, and mentally handicapped.
Occasional
ED - School of Teaching, Learning, and Leadership

ARE 5255. Arts in Recreation
3(2,1) Art activities and experiences appropriate for use in playground, leisure services, occupational orientation and other recreational areas.

ED - School of Teaching, Learning, and Leadership

ARE 5359. Teaching Art K-12
4(4,0) PR: Admission to MA in Art Education, graduate standing or C.I. Transition from university art practices to public school teaching of art. Organize, design, and analyze art learning for students K-12.
Summer
ED - School of Teaching, Learning, and Leadership

ARE 5454. Studio Experiences in Art Education
3(3,0) PR: Graduate admission or C.I. Materials available for instruction in public schools will be explored in depth in relation to their appropriateness and productive qualities. May be repeated for credit.
Spring,Summer
ED - School of Teaching, Learning, and Leadership

ARE 5648. Contemporary Visual Arts Education
3(3,0) PR: Graduate standing or C.I. Continued study of current programs and innovations in public school Visual Arts Programs.
Occasional
ED - School of Teaching, Learning, and Leadership

ARE 6195. Teaching Art Appreciation with Interdisciplinary Strategies
3(2,1) PR: Graduate status and public school teaching experience. Focuses on the examination of art appreciation examples and concepts toward planning curriculum (interdisciplinary for the study of art history, criticism, and aesthetics).
Fall
ED - School of Teaching, Learning, and Leadership

ARE 6450. K-12 Instructional Materials
3(3,0) PR: Graduate standing or C.I. A historical examination of art education curriculum along with developing learning experiences and visual resources (slides, transparencies, technology) from art works, and documentation.
Occasional
ED - School of Teaching, Learning, and Leadership

ARE 6666. Arts Advocacy
3(2,1) Graduate Standing or C.I. The study and development of plans to produce arts advocacy programs for the public school system.
Occasional
ED - School of Teaching, Learning, and Leadership

ARE 6747. Assessment Seminar in Art Education
3(3,0) PR: Graduate standing or C.I. Examines the nature of past and present assessment research in art education, various methods of conducting this research, and how it can translate into application and contribute to the knowledge base in the field.
Odd Fall,Even Spring
ED - School of Teaching, Learning, and Leadership

ARE 6748. Advanced Research Seminar in Art Education
3(3,0) PR: Graduate standing or C.I. Examines the nature of past and present research in art education, various methods of conducting art education research, and how research can translate into practical classroom application. May be used in the program a maximum of 2 times only when course content is different. May be used in the degree program a maximum of 2 times only when course content is different.
Odd Fall,Odd Spring
ED - School of Teaching, Learning, and Leadership

ARE 6905. Research Trends in Art Education
3(3,0) PR: EDF 6481. This course will further prepare art education graduate students to identify and review landmark research and conduct relevant art education research. May be repeated for credit.
Occasional
ED - School of Teaching, Learning, and Leadership

ARH 5897. Advanced Seminar in Art History
3(3,0) PR: ARH 2050 and ARH 2051 or C.I. Research methods on various topics including: major artist, monument, cultural period or theme.
Occasional
CAH - School of Visual Arts and Design

ART 5280. Serial Content
3(3,0) Admission to Emerging Media MFA or Digital Media M.A., graduate standing, or C.I. Serial content, story forms, interactive narrative theory and practice for art, digital media and film. Traditional and non-traditional forms of visual and interactive storytelling.
Fall
CAH - School of Visual Arts and Design

ART 5284. Design Theory and Methods
3(3,0) PR: Admission to MFA or C.I. Introduction to semiotic theory, communication theory, perceptual codes, human factors and visual rhetoric.
Fall
CAH - School of Visual Arts and Design

ART 5694. Crosscultural Electronic Art and Design
3(3,0) PR: Admission to MFA. Explores digital/electronic art and technology from mid 20th century to present. Explores key electronic artists and issues of the "arts electronica" into the present.
Spring
CAH - School of Visual Arts and Design

ART 5695. WebArt I
3(3,0) PR: Admission to MFA. Students will explore the web and experiment with pertinent software, as well as design and implement websites. Projects will be determined at the outset of each semester.
Spring
CAH - School of Visual Arts and Design

ART 5696. Art, Design and Human Interactions
3(3,0) PR: Admission to MFA. Exploration and design of interface interactions systems and technologies in contemporary society and culture including place making, way finding, electronic interface design, and publication design.
Spring
CAH - School of Visual Arts and Design

ART 5698. Concourse I
3(3,0) PR: ART 5910 and ART 5280 and ART 5694, or C.I. Digital reproduction of studio works.
Fall
CAH - School of Visual Arts and Design

ART 5811C. The Professional Practice of Art
3(3,1) PR: ART 2201C, ART 2203C, ART 2300C, ART 2301C (no graduate level prerequisite), graduate status or senior standing, or C.I. Seminar class on political information pertaining to professional practices in the art world. Overview of inventory processing, accounting, and the marketing of art.
Fall
CAH - School of Visual Arts and Design

ART 5910. Studio Concentration I
3(3,0) PR: Admission to MFA. Course is the primary for production of work in studio. Students will meet periodically with faculty to discuss progress. Professor will meet with the whole class periodically in order to facilitate a group critique of work completed. May be used in the degree program a maximum of 3 times.
Fall,Spring
CAH - School of Visual Arts and Design

ART 5941. Graduate Practicum I
1(1,0) PR: Web Art I, graduate status, or C.I. Candidates with cross-disciplinary interests will discuss and analyze issues in digital art making via the internet. Students will use this information to develop projects in their specialization.
Occasional
CAH - School of Visual Arts and Design

ART 6281C. Serial Content and Classic Form II
3(3,3) PR: Content and Form I. Studio course exploring the book form via digital technology (for book history, essential basic design principles, and typographical designs) and traditional methods.
Fall
CAH - School of Visual Arts and Design

ART 6683C. Time Arts
3(3,0) PR: Admission to MFA program or C.I. Students explore experimental, innovative and simplistic approaches to the visual representation of movement in a wide variety of analog and digital media.
Spring
CAH - School of Visual Arts and Design

ART 6687. Research Concentration I
3(3,0) PR: ART 5910, ART 5698 and ART 5284. Apply artistic techniques from prior courses to produce an interactive body of work delivered on web, DVD, video, etc.
Even Fall
CAH - School of Visual Arts and Design

ART 6689. Research Concentration II
3(3,0) PR: ART 6687 and PR: or CR: ART 6699. Continuation of Research Concentration I. Produce an interactive body of art work under a unified theme.
Occasional
CAH - School of Visual Arts and Design

ART 6697. Web Art II
3(3,0) PR: ART 5695, graduate standing, or C.I. Students explore various programs and pertinent software used in website design and implementation.
Fall
CAH - School of Visual Arts and Design

ART 6699. Concourse II
3(3,0) PR: ART 5698. Continuation of Concourse I. Digital work used to create group web exhibit and interactive portfolio.
Occasional
CAH - School of Visual Arts and Design

ART 6743C. Intermedia Sculpture
3(3,3) PR: Admission to MFA. Enhancing material sense and repertoire regarding material selection, combination, and contextualization in static and dynamic projects. Design integration and enhanced structural awareness via media emphasized.
Occasional
CAH - School of Visual Arts and Design

ART 6911. Studio Concentration II
3(3,0) PR: Admission to MFA and ART 5910. Continuation of Concentration I. The principle class for studio work production. May be used in the degree program a maximum of 2 times.
Fall
CAH - School of Visual Arts and Design

ART 6930. Graduate Seminar
1(1,0) Admission to Emerging Media MFA program, graduate standing, or C.I. Lecture and interactive discussion centers upon art, digital media, film, aesthetics, culture, technology, and industry in relation to emerging media. May be used in the degree program a maximum of 4 times.
Fall,Spring
CAH - School of Visual Arts and Design

ART 6942. Graduate Practicum II
1(1,0) PR: Web Art I, Graduate Practicum I. Candidates with cross-disciplinary interests will discuss and analyze digital art making via the internet. Students will apply principals from Practicum I and Internet projects.
Spring
CAH - School of Visual Arts and Design

ASH 5229. History of the Middle East
3(3,0) PR: Graduate standing or C.I. Selected topics in the history of the modern Middle East. May be used in the degree program a maximum of 2 times only when course content is different.
Occasional
CAH - Department of History

ASH 5408. Colloquium in Modern China
3(3,0) Graduate status or senior standing or C.I. Course explores works of scholarship in modern China including the rise of Communism, Chinese women and Sino-American relations.
Occasional
CAH - Department of History

ASH 5485. U.S. China Relations
3(3,0) PR: Graduate standing or C.I. An in-depth study of the significant relations between China and the United States since the 18th century.
Even Fall
CAH - Department of History

ASH 5925. Colloquium in South Asian History
3(3,0) PR: Graduate standing or C.I. Addresses key themes in South Asian history through selected readings. May be used in the degree program a maximum of 3 times only when course content is different.
Occasional
CAH - Department of History

ASH 6936. Seminar in US-China Relations
3(3,0) PR: Graduate standing or C.I. Historiographical interrogations of the intricate relations between the United States and China from 1900 to the present.
Occasional
CAH - Department of History

AST 5145. Advanced Asteroids, Comets, and Meteorites
3(3,0) PR: Graduate standing or C.I. An advanced study of physical, chemical, mineralogical and orbital characteristics of Asteroids, Comets and Meteorites, with an emphasis on the origin of our solar system.
Odd Spring
COS - Department of Physics

AST 5154. Advanced Planetary Geophysics
3(3,0) PR: Admission to Physics MS or PhD or C.I. The physics of planetary evolution, planetary interiors, and planetary surface processes.
Even Fall
COS - Department of Physics

AST 5165. Planetary Atmospheres
3(3,0) PR: PHY 3220 and PHY 3101, graduate status or senior standing, or C.I. This course will examine the physical and chemical processes that govern the behavior of the atmosphere of Earth and the other planets.
Even Spring
COS - Department of Physics

AST 5263. Advanced Observational Astronomy
3(3,0) PR: Graduate standing in the Physics department or C.I. Experimental design and experimental techniques in astrophysics; spherical astronomy; physics of telescopes and of common astronomical detectors; error analysis.
Even Spring
COS - Department of Physics

AST 5334. Extrasolar Planets and Brown Dwarfs
3(3,0) PR: Admission to Physics M.S. or Physics Ph.D., or C.I. Substellar-mass objects, their formation, evolution, dynamics, detection, and environments.
Odd Spring
COS - Department of Physics

AST 5765C. Advanced Astronomical Data Analysis
3(3,1) PR: MAC 2313, a 3000-level or higher course in astronomy or planetary science, ability to write simple computer programs, or C.I. Advanced astronomical data formation and acquisition, detector physics, measurement extraction, error analysis, modeling, computer programming, statistics, interpretation, and written and oral presentation of results.
Fall
COS - Department of Physics

AST 6112. Origin and Evolution of Planetary Systems
3(3,0) PR: Graduate standing in Physics or C.I. Observations and properties of extrasolar planets and circumstellar disks through physics of disk evolution and planet formation and dynamical evolution of planetary systems.
Odd Spring
COS - Department of Physics

AST 6156. Current Topics in Planetary Sciences
3(3,0) PR: Admission to Planetary Sciences M.S./Ph.D. or C.I. Review and analyze current advances in planetary science, particularly science results from recent discoveries. The focus of the course will vary depending on current discoveries. May be used in the degree program a maximum of 3 times.
Occasional
COS - Department of Physics

AST 7919. Doctoral Research
VAR(VAR,VAR) PR: Doctoral standing. Doctoral research. May be repeated for credit. Graded S/U.
Fall,Spring,Summer
COS - Department of Physics

AST 7980. Doctoral Dissertation
VAR(VAR,VAR) PR: Candidacy status. Doctoral dissertation. May be repeated for credit. Graded S/U.
Fall,Spring,Summer
COS - Department of Physics

ATR 5106C. Prevention of Injury and Illness in Athletic Training Practice
2(1,1) Admission to MAT degree program Physiological, psychological, and sociological aspects of health and wellness and the prevention of injury and illness; includes physical fitness, nutrition/hydration, flexibility and prophylactic taping/bracing.
Summer
HPA - Department of Health Professions

ATR 5206C. Functional Human Anatomy for Athletic Trainers
3(2,1) Admission to MAT degree program Anatomical knowledge and clinical skills essential to the practice of athletic training; including knowledge of functional anatomy, manual muscle testing, goniometry, posture and gait analysis.
Summer
HPA - Department of Health Professions

ATR 6505. Athletic Training Seminar
1(1,0) CR: Athletic Training Practicum V (ATR 6XXXL) Prepare for the BOC examination, review the Standards of Professional Practice, NATA Code of Ethics, and professional development requirements for the entry-level athletic trainer.
Spring
HPA - Department of Health Professions

BCH 6740. Advanced Biochemistry
3(3,0) PR: Must meet proficiency requirement as determined by the Chemistry department or C.I. Biochemistry focusing on enzymology, regulation of the activity of enzymes and cellular chemical activity, and biochemical methods to study proteins.
Occasional
COS - Department of Chemistry

BME 5140. Materials Science of Instrumentation for Clinical Applications
3(3,0) General graduate standing in Engineering, Biomedical Science, Biotechnology, Chemistry or related disciplines or C.I. Study of engineering and materials concepts behind the clinical diagnostics currently used and under development, as well as technologies utilized in fabrication and characterization of these devices.
Odd Fall
ECS - Department of Mechanical, Materials, and Aerospace Engineering

BME 5216C. Mechanics of Biostructures I
3(2,3) Graduate standing or C.I. Part I of a two semester course. Mechanical analysis of hard and soft tissues and prosection lab on human anatomy and physiology.
Fall
ECS - Department of Mechanical and Aerospace Engineering

BME 5217C. Mechanics of Biostructures II
3(2,2) BME 5587C or C.I. Part II of a two semester course. Cell physiology and engineering principles applied to analysis of cellular processes and prosection anatomy lab on human anatomy and physiology.
Spring
ECS - Department of Mechanical and Aerospace Engineering

BME 5267. Biofluid Mechanics
3(3,0) PR: EML 3701 and EGM 3601 or C.I. This course will cover the physical and mathematical principals of fluid mechanics and its application and relevance to human physiology and pathology.
Fall
ECS - Department of Mechanical and Aerospace Engineering

BME 5268C. Applied and Computational Biofluids
3(2,2) PR: EML 3701 and EGM 3601 or C.I. Principles and foundations of applied fluid mechanics and computational methods to the human circulation.
Spring
ECS - Department of Mechanical and Aerospace Engineering

BME 5572. Biomedical Nanotechnology
3(3,0) PR: EEL 3123C with a "C" (2.0) or better grade. Human Physiology, Bioelectric Phenomena and Neurons, Nanoelectronics for fabrication of biochips for human biomedical applications, self-assembly, bioelectronics, moral and ethical issues.
Spring
ECS - Department of Electrical and Computer Engineering

BME 6215. Advanced Biomechanics
3(3,0) BME 5216C or C.I. The objectives of this course are to understand the basic concepts and biomedical applications of medical robotics, human motion mechanics and neuro-mechanics.
Spring
ECS - Department of Mechanical and Aerospace Engineering

BME 6500C. Bioinstrumentation
3(2,2) BME 5587C or C.I. An introduction to the fundamental theory and experimental techniques needed for performing bioengineering measurements, designing related experiments, and analyzing experimental results.
Fall
ECS - Department of Mechanical and Aerospace Engineering

BME 6908. Independent Study
VAR(1-99,0) Graduate standing. Independent study on a topic taken to supplement current coursework.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

BME 6918. Directed Research
VAR(1-99,0) Graduate standing. Student research under the direction of a BME faculty member.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

BME 6935. Topics in Biomedical Engineering
3(3,0) EML 3701 and EGM 3601 and graduate standing or C.I. In this course students will explore research topics in biomedical engineering (BME) guided by BME faculty. This team-taught course will involve seminars and presentations of research and case studies by faculty engaged in BME research as well as regional medical professionals.
Fall
ECS - Department of Mechanical and Aerospace Engineering

BME 6971. Thesis
VAR(1-99,0) Graduate standing. Thesis course for students in Biomedical Engineering program.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

BMS 6001. Cellular Function and Medical Genetics
5(5,0) PR: Matriculation in the College of Medicine M.D. Program. Cellular Function and Medical Genetics is an integrated, multidisciplinary, review of the basic sciences of biochemistry, molecular biology; genetic, nutrition, pharmacology and cell biology underpinning modern medicine.
Fall
COM - M.D. Program

BMS 6002. Structure and Function
11(11,0) PR: Matriculation in the College of Medicine M.D. program. An integrated module with a curriculum that includes Clinical Anatomy, Embryology, Microanatomy, Physiology, and Neurosciences using medical imaging, clinical presentations, lectures, small-group sessions, team-based learning sessions.
Fall,Spring
COM - M.D. Program

BMS 6006. Health & Disease
5(5,0) PR: Matriculation in the College of Medicine M.D. program. Eight week module of the first year basic-science curriculum that integrates the following disciplines: immunology, microbiology, virology, pharmacology, and pathology.
Spring
COM - M.D. Program

BMS 6015. Practice of Medicine I
7(7,0) PR: Matriculation in the College of Medicine M.D. program. Extending throughout the first year of medical school, this module includes skills training in medical interviewing and physical examination while also addressing the context of the medical practice.
Fall,Spring
COM - M.D. Program

BMS 6016. Practice of Medicine II
8(8,0) PR: Completion of M-1 Term. P-2: Practice of Medicine is a year long module which teaches advanced clinical examination techniques and clinical reasoning skills integrated with organ systems modules.
Fall,Spring
COM - M.D. Program

BMS 6050. Psychosocial Issues in Healthcare
4(4,0) PR: Matriculation in the College of Medicine M.D. program. This module covers the role of psychosocial factors in health and illness, emphasizing communication skills, cultural differences, human sexuality, domestic violence, and alcohol misuse.
Spring
COM - M.D. Program

BMS 6123. Human Anatomy and Embryology
3(3,0) Matriculation into the M.S. Genetic Counseling Program An overview of the human body structure and development through lecture, group discussions, problem-solving, self-learning modules, team based learning, and clinical case studies.
Fall
COM - Department of Clinical Sciences

BMS 6631. Hematology and Oncology
4(4,0) PR: Matriculation in the College of Medicine M.D. Program. Overview of major hematologic diseases: coagulation, and basic neoplasia. Pathology, pharmacology, laboratory and clinical medicine disciplines, emphasizing disease classification, differential diagnosis, and current treatments.
Spring
COM - M.D. Program

BMS 6632. Endocrine and Reproductive Systems
5(5,0) PR: Completion of M-1 Term. The S-2 module is an integrated overview of diseases of the endocrine, reproductive, and genital systems. Pathology, pathophysiology, pharmacology, and clinical medicine disciplines are included.
Fall
COM - M.D. Program

BMS 6633. Cardiovascular and Pulmonary Systems
5(5,0) PR: Completion of M-1 Term. The Cardio/Pulmonary module is an integrated, multidisciplinary, overview of medically-relevant cardiovascular and pulmonary conditions.
Fall
COM - M.D. Program

BMS 6634. Gastrointestinal and Renal Systems
5(5,0) PR: Completion of M-1 Term. The module is one of six organ-system based modules scheduled for the M2 and end of M1 years. The module provides overview of diseases of the gastro and renal systems.
Fall
COM - M.D. Program

BMS 6635. Skin and Musculoskeletal Systems
4(4,0) PR: Completion of M-1 Term. The module is an integrated overview of diseases and disorders affecting the skin, connective tissues, and musculoskeletal systems.
Fall,Spring
COM - M.D. Program

BMS 6636. Brain and Behavior
6(6,0) PR: Completion of M-1 Term. This module integrates foundational principles of basic clinical neuroscience relevant for understanding normal nervous system function and the pathophysiologic basis of nervous system disorders.
Spring
COM - M.D. Program

BMS 6760. Introduction to Genetic Counseling 1
3(3,0) Matriculation into the M.S. Genetic Counseling Program An introduction of the basic principles of genetic counseling.
Fall
COM - Department of Clinical Sciences

BMS 6761. Introduction to Genetic Counseling 2
3(3,0) Matriculation into the M.S. Genetic Counseling Program This course is a continuation of the basic principles of Genetic Counseling.
Spring
COM - Department of Clinical Sciences

BMS 6762. Advanced Genetic Counseling 1
3(3,0) Matriculation into the M.S. Genetic Counseling Program An overview of the advanced principles of genetic counseling; understanding the importance of pedigree, how to build a rapport with patients, and prepare for interactions with clients.
Fall
COM - Department of Clinical Sciences

BMS 6763. Advanced Genetic Counseling 2
3(3,0) Matriculation into M.S. Genetic Counseling Program Overview to continue the advanced principles of genetic counseling 2; the history of genetic counseling, the professional organizations, practice guidelines, and code of ethics.
Spring
COM - Department of Clinical Sciences

BMS 6764. Medical Biochemistry and Physiology For Genetic Counselors
3(3,0) Matriculation into the M.S. Genetic Counseling Program An overview of the fundamentals of medical biochemistry and physiology for genetic counselors.
Spring
COM - Department of Clinical Sciences

BMS 6765. Genetic Diseases of Human Organ Systems
3(3,0) Matriculation into the M.S. Genetic Counseling Program The Genetic Diseases of Human Organ Systems course provides an overview of genetic disease affecting the human organ systems through lecture, group discussions and problem solving, self-learning modules, team based learning, and clinical case studies.
Spring
COM - Department of Clinical Sciences

BMS 6766. Inborn Errors of Metabolism
3(3,0) Matriculation into the M.S. Genetic Counseling Program Overview of the fundamentals of genetic diseases associated with inborn errors of metabolism.
Summer
COM - Department of Clinical Sciences

BMS 6767. Molecular Diagnostics
3(3,0) Matriculation into the M.S. Genetic Counseling Program An overview of basic laboratory skills used in molecular genetic clinical diagnostic laboratories for detecting genetic diseases.
Fall
COM - Department of Clinical Sciences

BMS 6821. Healthcare Ethics
3(3,0) Matriculation into the M.S. Genetic Counseling Program An overview on the ethical issues in healthcare, and also discuss influences on ethical decisions made by healthcare providers and patients
Fall
COM - Department of Clinical Sciences

BMS 6902. Journal Club
1(1,0) Matriculation into the M.S. Genetic Counseling Program Students will review and discuss current literature relating to the practice of genetic counseling.
Fall,Spring
COM - Department of Clinical Sciences

BMS 6910. Focused Inquiry and Research Experience
5(5,0) PR: Matriculation in the College of Medicine M.D. program. This course provides the training and mentorship enabling medical students to successfully complete rigorous, independent, scholarly research projects in fields of individual passion.
Fall,Spring
COM - M.D. Program

BMS 6911. Focused Inquiry and Research Experience II
5(5,0) PR: Focused Inquiry and Research Experience I (BMS 6910). This course provides the training and mentorship enabling medical students to successfully complete rigorous, independent, scholarly research projects in fields of individual passion.
Fall,Spring
COM - M.D. Program

BMS 6950. Capstone 1
2(2,0) Matriculation into the M.S. Genetic Counseling Program Students will identify a Capstone case and prepare a summary of all clinical presentation, diagnostic testing, and management considerations.
Summer
COM - Department of Clinical Sciences

BMS 6951. Capstone 2
3(3,0) Matriculation into the M.S. Genetic Counseling Program Students will have a Capstone case for presentation; diagnostic testing and management considerations for a Capstone case.
Spring
COM - Department of Clinical Sciences

BOT 6623C. Plant Ecology
4(3,3) Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. The study of the abiotic and biotic processes that control the distribution of terrestrial flora at local, landscape, and global scales.
Occasional
COS - Department of Biology

BSC 5258L. Tropical Biology Research and Conservation
3(0,3) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, PSM in Conservation Biology, or Certificate in Conservation Biology, or C.I. Research and conservation in New World tropics, including a field trip to Belize. Tropical biodiversity and forest ecology, integrating conservation strategies in research and communication.
Occasional
COS - Department of Biology

BSC 5316. Marine Conservation Biology
3(3,0) PR: BSC 4312C Marine Biology, graduate standing, or C.I. Examine human impacts in marine ecosystems and how humans can become better stewards of these habitats.
Odd Spring
COS - Department of Biology

BSC 5332. Invasion Biology
3(3,0) PR: PCB 3044 or C.I. The three stages of biological invasion (introduction, establishment and spread) as well as impacts on native species and ecosystems.
Even Spring
COS - Department of Biology

BSC 5408L. Advanced Biology Laboratory Techniques
3(0,9) PR: BS degree, C.I. This course will emphasize those biological techniques and resources necessary for students about to begin thesis research. Individual and small group instruction in current laboratory techniques, literature searches, and hands-on practice of techniques will be stressed. May not be repeated for credit.
Occasional
COS - Department of Biology

BSC 5418. Tissue Engineering
3(3,0) PR: Graduate standing. Introduction to Tissue Engineering with a special emphasis on the current status of the field, on novel methods and on cell biomaterial interactions.
Occasional
COM - Department of Molecular and Microbiology

BSC 5436. Biomedical Informatics : Structure Analysis
3(3,0) PR: PCB 3522 or equivalent or C.I. Introduction of bioinformatics tools and resources on RNA and protein structure analysis.
Fall
COM - Department of Molecular and Microbiology

BSC 5618. Phylogenetic Approaches in Biological Research
3(3,0) PR: Admission to Biology Department graduate program or C.I. A multidisciplinary approach to understanding evolutionary relationships among organisms using phylogenetic information to address important questions in biology.
Even Fall
COS - Department of Biology

BSC 5665. Clinical Embryology and Congenital Malformations
3(3,0) ZOO 3733C or equivalent Functional human embryology in a clinically oriented way to study the human development and congenital malformations as a result of genetic, environmental and toxic conditions.
Spring,Summer
COM - Burnett School of Biomedical Sciences

BSC 5824. Biogeography
4(4,0) Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate In Conservation Biology, PSM in Conservation Biology, or C.I. Study of geographic variation in nature, ranging from past to present and from genes to ecosystems.
Even Spring
COS - Department of Biology

BSC 6407C. Laboratory Methods in Molecular Biology
3(1,6) PR: Graduate standing, PCB 3522 or C.I. Description and practice of commonly used methods in molecular biology.
Fall
COM - Department of Molecular and Microbiology

BSC 6431. Practice of Biomedical Sciences
3(3,0) PR: Graduate standing. Introduces students to the practice of biomolecular science. Graded S/U.
Fall
COM - Department of Molecular and Microbiology

BSC 6432. Biomedical Sciences I
5(5,0) PR: 1) Acceptance in the Molecular Biology and Microbiology master's program, or 2) Biochem I, or Molecular Biology 1 and 2, or Cell Biology, or C.I. First semester of a multi-disciplinary course. Topics include metabolic reactions, DNA replication and transcription. Lectures incorporate current scientific findings in the context of biomedical applications.
Fall
COM - Department of Molecular and Microbiology

BSC 6433. Biomedical Sciences II
5(5,0) PR: BSC 6432, graduate standing. Second semester of a multi-disciplinary course. Topics covered include protein translation, signaling and bioinformatics. Lectures incorporate current scientific findings in the context of biomedical applications.
Spring
COM - Department of Molecular and Microbiology

BSC 6614. Advanced Topics in Systematics
1(1,0) PR: An evolution course, C.I., admission to graduate program. Discussion of new cutting edge topics in Systematics and hands on learning of computer data analysis in this field.
Occasional
COS - Department of Biology

BSC 6935. Seminar in Biology
1(1,0) PR: Admission to Biology M.S. or Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Discussions and presentations addressing current research in the field of Biology. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall,Spring
COS - Department of Biology

BTE 6935. Seminar in Business Education
3(3,0) PR: Graduate standing or C.I. Current problems, issues, and trends in business education.
Summer
ED - Department of Child, Family and Community Sciences

BUL 5332. Advanced Business Law Topics
3(3,0) PR: Admission to graduate program, or Management major or minor in term of graduation, BUL 3130. Advanced business law topics including coverage of the Uniform Commercial Code, torts, commercial paper, and secured transactions.
Fall,Spring
BA - Kenneth G. Dixon School of Accounting

BUL 6444. Law and Ethics
3(3,0) PR: Accepted for graduate study in College of Business Administration. Legal and ethical issues inherent in business decision making, including the effects of legislation, regulation, diversity, harassment, and other workplace issues on business activity.
Fall,Spring
BA - Kenneth G. Dixon School of Accounting

CAP 5055. AI for Game Programming
3(3,0) PR: CS Foundation Exam or EEL 4851C or C.I. Surveys cutting-edge AI techniques for video games and board games and contrasts them with more traditional approaches.
Spring
ECS - Department of Computer Science

CAP 5100. Human-Computer Interface Design
3(3,0) PR: COP 4331C, graduate standing and/or approval of the Director of the Software Engineering Certificate Program. Focuses on dynamics of human-computer interaction. Provides a comprehensive overview of HCI design as a software discipline. Features a user-centered approach to Web-based application design.
Fall
ECS - Department of Computer Science

CAP 5415. Computer Vision
3(3,0) PR: COP 3503C, MAC 2312 and COT 3960. Image formation, binary vision, region growing and edge detection, shape representation, dynamic scene analysis, texture, stereo and range images, and knowledge representation.
Fall
ECS - Department of Computer Science

CAP 5510. Bioinformatics
3(3,0) PR: Background in programing language or molecular biology. This course introduces problems, concepts, algorithms, and applications in Bioinformatics. It covers essential topics such as sequence alignment and prediction of gene and protein structure.
Occasional
ECS - Department of Computer Science

CAP 5512. Evolutionary Computation
3(3,0) PR: CAP 4630 or COP 3503C or C.I. This course covers the field of evolutionary computation, focusing on the theory and application of genetic algorithms.
Spring
ECS - Department of Computer Science

CAP 5610. Machine Learning
3(3,0) PR: CAP 4630 or C.I. Origin/evaluation of machine intelligence; machine learning concepts and their applications in problem solving, planning and "expert systems" symbolic role of human and computers.
Occasional
ECS - Department of Computer Science

CAP 5636. Advanced Artificial Intelligence
3(3,0) PR: CAP 4630. Al theory of knowledge representation, "expert systems", memory organization, problem solving, learning, planning, vision, and natural language.
Fall
ECS - Department of Computer Science

CAP 5725. Computer Graphics I
3(3,0) Architecture of graphics processors; display hardware; principles of programming and display software; problems and applications of graphic systems.
Spring
ECS - Department of Computer Science

CAP 5738. Visualization Techniques for Data Analysis
3(3,0) COP 3330, COP 3502C. Techniques for visualization that are useful for analyzing and presenting quantitative information are covered. Projects analyze one or more real-world publicly-available datasets. Understanding the data, visualizing it, creating hypotheses, and visually exploring them. Application of statistical techniques to test hypotheses about data trends and visualize how well their hypotheses match with their analysis.
Fall,Spring,Summer
ECS - Department of Electrical Engineering and Computer Science

CAP 6105. Pen-Based User Interfaces
3(3,0) PR: CAP 5610 or C.I. Designed to give students a thorough understanding of the techniques, algorithms, and evaluation methodologies used in designing and developing pen-, sketch-, and gesture-based user interfaces.
Fall
ECS - Department of Computer Science

CAP 6121. 3D User Interfaces for Games and Virtual Reality
3(3,0) PR: CAP 5725 or C.I. Introduction to the design, implementation, and evaluation of the fundamental techniques in spatial 3D interaction.
Spring
ECS - Department of Computer Science

CAP 6133. Advanced Topics in Computer Security and Computer Forensics
3(3,0) COP 5611, COT 5405, CNT 5008. Advanced topics in computer security and forensics such as cryptography; automatic instrusion detection, advanced pattern matching, statistical techniques, firewalls, and vulnerability scanning.
Occasional
ECS - Department of Computer Science

CAP 6135. Malware and Software Vulnerability Analysis
3(3,0) PR: Digital Forensics MS major or CDA 5106 or COT 5405. Analyzes computer malicious codes, such as virus, worm, trojan, spyware, and software vulnerabilities, such as buffer-overflow.
Spring
ECS - Department of Computer Science

CAP 6307. Text Mining I
3(3,0) COP 3330, CAP 4630; or C.I. Extracting knowledge from unstructured text collections. Document indexing, similarity and summarization, clustering, classification, named entity recognition and relation extraction, text stream processing. Several programming assignments.
Occasional
ECS - Department of Electrical Engineering and Computer Science

CAP 6315. Social Media and Network Analysis
3(3,0) CAP 5316. Techniques developed by the computer science research community for analyzing social networks and social media datasets.
Summer
ECS - Department of Electrical Engineering and Computer Science

CAP 6318. Computational Analysis of Social Complexity
3(3,0) CAP 5316. Computational concepts, principles, modeling and simulation approaches used to analyze complex social and economic phenomena, leveraging the availability of large amounts of data, and elements of complexity theory.
Odd Spring
ECS - Department of Electrical Engineering and Computer Science

CAP 6411. Computer Vision Systems
3(3,0) PR: CAP 5415. Recent systems contributing toward recognition, reasoning, knowledge representation, navigation, and dynamic scene analysis. Comparisons, enhancements, and integrations of such systems.
Occasional
ECS - Department of Computer Science

CAP 6412. Advanced Computer Vision
3(3,0) PR: CAP 5415. Computational theories of perception, shape from IXΦ techniques, multi-resolution image analysis, 3-D model based vision, perceptual organization, spatiotemporal model, knowledge-based vision systems.
Occasional
ECS - Department of Computer Science

CAP 6419. 3D Computer Vision
3(3,0) PR: CAP 5415 or EEL 5820 or C.I. 2D/3D Projective Geometry, Projective Transformation Estimation, Camera Calibration, Single View Modeling, Bi-focal Modeling, Fundamental Matrix, Stratified Structure, Homography, Tri-focal Tensor, Auto-Calibration, Cheirality.
Occasional
ECS - Department of Computer Science

CAP 6515. Algorithms in Computational Biology
3(3,0) PR: COT 5405 or CAP 5510. This course will concentrate on algorithmic problems in computational biology.
Fall
ECS - Department of Computer Science

CAP 6517. Computational Genomics
3(3,0) PR: CAP 5510. This course will summarize computational techniques for comparing and analyzing genomics; (DNA) sequences.
Spring
ECS - Department of Computer Science

CAP 6545. Machine Learning Methods for Biomedical Data
3(3,0) PR: CAP 5510 or C.I. Summarize computational techniques for bridging two fields: machine learning and biomedical science to illustrate successful data mining and knowledge discovery in an interdisciplinary context.
Occasional
ECS - Department of Computer Science

CAP 6616. Neuroevolution and Generative and Developmental Systems
3(3,0) PR: COP 3503C or C.I. Focuses on evolving neural networks for difficult sequential decision and control tasks and associated issues in efficient encoding and representation.
Occasional
ECS - Department of Computer Science

CAP 6640. Computer Understanding of Natural Language
3(3,0) PR: CAP 5636. A study of the different approaches to build programs to understand natural language. The theory of parsing, knowledge representation, memory, and inference will be studied.
Spring
ECS - Department of Computer Science

CAP 6671. Intelligent Systems: Robots, Agents, and Humans
3(3,0) PR: CAP 5610 or C.I. Includes practical techniques for designing intelligent agents capable of planning, learning, and cooperation. Discussion of psychological/social issues.
Spring
ECS - Department of Computer Science

CAP 6675. Complex Adaptive Systems
3(3,0) PR: Graduate standing or C.I. This course is an introduction to the field of complex adaptive systems and will cover basic definitions, theoretical background, and empirical analyses.
Fall
ECS - Department of Computer Science

CAP 6676. Knowledge Representation
3(3,0) CAP 5636. Topics covered include terminological languages, logicist approaches, ontologies, ontological and conceptual relativity, processes, intangibles, time, building large knowledge bases, and complexity analysis.
Occasional
ECS - Department of Computer Science

CAP 6701. Real-time Realistic Rendering
3(3,0) PR: CAP 4720 or CAP 5725. GPU Programming; State-of-the-art algorithms for: Real-time rendering of a lighting effects and realistic materials; Real-time volume rendering; real-time simulation and rendering of smoke.
Occasional
ECS - Department of Computer Science

CAP 6721. Ray Tracing
3(3,0) PR: CAP 5725, programming experience. Advanced graphics: Implementation of ray tracing algorithm plus extensions, spatial subdivisions, MC sampling, camera models,
texture mapping, instancing.
Occasional
ECS - Department of Computer Science

CAP 6737. Interactive Data Visualization
3(3,0) COP 5711. Principles and techniques for interactive data visualization that are useful for analyzing, presenting and exploring information are covered. The emphasis will be on algorithmic aspects of developing interactive visualization. The students will receive practical experience of building interactive visualization systems.
Spring
ECS - Department of Electrical Engineering and Computer Science

CAP 6942. Project in Data Analytics
3(3,0) COP 5711, CAP 5610, CNT 5805 and STA 6704. A project-focused course that demonstrates mastery of data analytics through development of novel algorithms or innovative application of existing techniques for data mining applications.
Spring,Summer
ECS - Department of Electrical Engineering and Computer Science

CCE 5006. Infrastructure Systems Management
3(3,0) PR: CCE 4004 and CCE 4034, or C.I. Essential elements of infrastructure systems and cover concepts, methods, and technologies essential for infrastructure life cycle engineering and management.
Fall,Spring
ECS - Department of Civil, Environmental, and Construction Engineering

CCE 5205. Decision Support for Infrastructure Projects
3(3,0) PR: CCE 4004 and CCE 4034, or C.I. Infrastructure decision-making theories, data representation for decision analysis, advanced methods in decision-making, and applications of decision support systems in infrastructure projects.
Fall,Spring
ECS - Department of Civil, Environmental, and Construction Engineering

CCE 5220. Sustainable Infrastructure Systems
3(3,0) STA 3032. Introduce the principles of sustainability as they relate to the built environment and infrastructure systems; sustainability metrics; life cycle assessment; resilience; green building principles.
Spring
ECS - Department of Civil, Environmental, and Construction Engineering

CCE 6036. Advanced Construction Planning and Control
3(3,0) PR: CCE 5006 and CCE 5205, or C.I. Advanced concepts, theories, and applications in planning, estimating, and scheduling. Students will be introduced to dynamic project planning and optimization.
Fall,Spring
ECS - Department of Civil, Environmental, and Construction Engineering

CCE 6045. Cost Analysis of Sustainable Infrastructure Systems
3(3,0) PR: CCE 5006. Cost engineering for construction organizations, projects, and operations. Topics include project cash flow analysis, construction cost accounting, evaluating investments, and life cycle cost analysis.
Odd Fall
ECS - Department of Civil, Environmental, and Construction Engineering

CCE 6211. Design and Monitoring of Construction Processes
3(3,0) PR: CCE 5006 and CCE 5205, or C.I. Concepts of integrated project delivery, improving site layout, advanced operations improvement technologies, improving site security, and green construction.
Fall,Spring
ECS - Department of Civil, Environmental, and Construction Engineering

CCE 6817. Dynamics of Sustainable Systems
3(3,0) CCE 5220 or C.I. This course uses dynamic modeling as an experimental platform to study and analyze the dynamics of socio-technical problems in the engineering and construction industry.
Even Fall
ECS - Department of Civil, Environmental, and Construction Engineering

CCE 6918. Directed Research; Independent Study
VAR (1-99) This is a directed research independent study course. Graded S/U.

ECS - Department of Civil, Environmental, and Construction Engineering

CCE 6971. Thesis
VAR This is a thesis course. Graded S/U. May be repeated for credit.

ECS - Department of Civil, Environmental, and Construction Engineering

CCE 7980. Dissertation
VAR This is a dissertation course. Graded S/U. May be repeated for credit.

ECS - Department of Civil, Environmental, and Construction Engineering

CCJ 5015. The Nature of Crime
3(3,0) PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. This course provides an overview of major dimensions of crime in the U.S.; epidemiology of crime, costs of crime, and typologies of crime and criminals.
Occasional
HPA - Department of Criminal Justice

CCJ 5456. The Administration of Justice
3(3,0) PR: Admission to Criminal Justice graduate program, graduate certificate program, or C.I. This course provides an overview of the criminal justice system and a critical analysis of formal and informal processing of offenders by criminal justice agencies.
Fall,Spring,Summer
HPA - Department of Criminal Justice

CCJ 5931. Contemporary Criminal Justice Strategies
3(3,0) PR: Graduate standing or C.I. Graduate level analysis of contemporary crime issues and the reactions of the criminal justice system to combat those crimes at both the national and international levels. May be used in the degree program a maximum of 3 times.
Occasional
HPA - Department of Criminal Justice

CCJ 5934. Criminal Justice Investigative Process
1(1,0) PR: Graduate standing or C.I. Advanced seminar providing students with a broad view of how the criminal justice investigative process operates. Focus on the roles and responsibilities of agents as investigators. May be used in the degree program a maximum of 3 times only when course content is different.
Occasional
HPA - Department of Criminal Justice

CCJ 6027. Criminal Justice Responses to Terrorism
3(3,0) PR: Admission to the Criminal Justice graduate program or C.I. Critically examines phenomena of domestic and international terrorism to give students a solid grounding of salient issues in developing crime control strategies to prevent terrorism and mount appropriate responses to incidents.
Occasional
HPA - Department of Criminal Justice

CCJ 6038. Violent Crimes and Criminals
3(3,0) PR: Admission to Criminal Justice graduate program or C.I. This course provides critical examination of violent crimes and criminals. Students will focus on gathering, reviewing, analyzing and synthesizing evidence-based data on violent crime.
Occasional
HPA - Department of Criminal Justice

CCJ 6051. Community Justice
3(3,0) PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. Examines concepts of community justice as they relate to an alternative form of administering criminal justice.
Occasional
HPA - Department of Criminal Justice

CCJ 6067. Perspectives on Genocide
3(3,0) PR: Admission to Criminal Justice graduate program or C.I. This course provides a critical examination of criminal justice perspectives on genocide.
Occasional
HPA - Department of Criminal Justice

CCJ 6073. Data Management Systems for Crime Analysis
3(3,0) PR: Admission to M.S. in Criminal Justice, Criminal Justice certificate, or C.I. This course is designed to provide the conceptual basis, understanding, and skills necessary for complex crime data manipulation.
Fall
HPA - Department of Criminal Justice

CCJ 6074. Investigative and Intelligence Analysis: Theory and Methods
3(3,0) PR: Graduate standing or C.I. This course is designed to familiarize the student with the complex analytical techniques and procedures used to support criminal investigations and criminal intelligence efforts.
Occasional
HPA - Department of Criminal Justice

CCJ 6077. Advanced Crime Mapping and Analysis in Criminal Justice
3(3,0) PR: CCJ 6073 and Crime Mapping and Analysis in Criminal Justice or C.I. Develop advanced mapping and analysis proficiency utilizing sophisticated spatial analysis techniques.
Summer
HPA - Department of Criminal Justice

CCJ 6079. Crime Mapping and Analysis in Criminal Justice
3(3,0) PR: CCJ 6073. Course provides the conceptual knowledge and practical skills to design and implement GIS based analysis of community crime problems.
Spring
HPA - Department of Criminal Justice

CCJ 6106. Policy Analysis in Criminal Justice
3(3,0) PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. This course is designed to familiarize students with the causes and consequences of public policy with an emphasis on criminal justice policy.
Fall
HPA - Department of Criminal Justice

CCJ 6118. Criminal Justice Organizations
3(3,0) PR: Graduate standing or C.I. Theory and research on complex organizations are applied in criminal justice settings. Alternative organizational goals, structures, staffing patterns, management styles and planning strategies are examined.
Fall
HPA - Department of Criminal Justice

CCJ 6335. Criminal Justice Sentencing and Punishment Policy
3(3,0) PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. This course critically examines the impact of sentencing policy on the correctional system, offenders, their families and the communities to which they return upon release.
Occasional
HPA - Department of Criminal Justice

CCJ 6362. Death Penalty
3(3,0) PR: Admission to Criminal Justice graduate program or C.I. Examines death penalty policies throughout the U.S., their administration, and deterrent issues.
Occasional
HPA - Department of Criminal Justice

CCJ 6366. Criminal Justice Responses to Domestic Violence
3(3,0) PR: Admission to Criminal Justice graduate program and CCJ 6704 or C.I. This course examines the criminal justice response to domestic violence. Particular emphasis is placed on historical responses, policy as well as an examination of the current role of police, prosecutors, defense attorneys and magistrates in handling domestic assault and battery.
Occasional
HPA - Department of Criminal Justice

CCJ 6406. Research and Technology Implementation
3(3,0) PR: Admission to Criminal Justice graduate program or C.I. Changing roles of social and physical sciences as related to the objectives and administration of public safety agencies.
Occasional
HPA - Department of Criminal Justice

CCJ 6431. Leadership and Ethics in Criminal Justice
3(3,0) PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. Examines the leadership issues faced by decision makers in the criminal justice system.
Occasional
HPA - Department of Criminal Justice

CCJ 6467. Justice and Safety System Manpower
3(3,0) PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. Processes essentials to administration to human resources in criminal justice and public safety agencies; structure and processes for acquisition, training, and maintenance of personnel.
Occasional
HPA - Department of Criminal Justice

CCJ 6485. Issues in Justice Policy
3(3,0) Examination of selected issues of public policy regarding the functions and roles of criminal justice agencies vis-a-vis other government departments or agencies and public purposes. May be repeated for credit.
Fall,Spring,Summer
HPA - Department of Criminal Justice

CCJ 6489. Professionalism in Criminal Justice Organizations
3(3,0) PR: Admission to M.S. in Criminal Justice, or C.I. Historical evolution of professionalism in criminal justice organizations and how it has changed the structure or practices of each involved agency.
Fall,Spring,Summer
HPA - Department of Criminal Justice

CCJ 6617. Mental Disorder, Crime, and Criminal Justice
3(3,0) PR: CCJ 5456, CCJ 5015, or C.I. An overview of the relationship between mental disorder, crime, and the criminal justice system.
Occasional
HPA - Department of Criminal Justice

CCJ 6626. Copycat Crime and Criminals
3(3,0) PR: Graduate standing or C.I. Explores the nature and prevalence of copycat crime while reviewing the theories, research and criminal justice policies associated with it.
Occasional
HPA - Department of Criminal Justice

CCJ 6669. Race, Crime and Justice
3(3,0) PR: Admission to Criminal Justice graduate program or C.I. This course is designed to acquaint students of all disciplines with the operational dynamics of race, crime and justice.
Occasional
HPA - Department of Criminal Justice

CCJ 6675. Human Rights and Criminal Justice
3(3,0) PR: Admission to Criminal Justice graduate program, Global Health and Public Affairs certificate, or C.I. Provides in-depth analysis of the human rights movement and its potential impact upon criminal law as well as the juvenile and criminal justice systems.
Occasional
HPA - Department of Criminal Justice

CCJ 6696. Criminal Justice Perspectives on Human Trafficking
3(3,0) Graduate standing or C.I. This course introduces students to the problem, causes and suggested solutions for human trafficking both in the United States and abroad.
Spring
HPA - Department of Criminal Justice

CCJ 6699. Criminal Justice Perspectives on Sexual Assault
3(3,0) Admission to Criminal Justice master's program. This course will examine the public policy response and the functions of criminal justice agencies as they identify, supervise and punish offenders and assist victims of sexual assault.
Spring
HPA - Department of Criminal Justice

CCJ 6702. Advanced Research Methods in Criminal Justice
3(3,0) PR: Admission to Criminal Justice graduate program Research track and CCJ 6704. Exposes students to the application of research methods in criminal justice. This course serves as the capstone experience for the Research Track.
Spring
HPA - Department of Criminal Justice

CCJ 6704. Research Methods in Criminal Justice
3(3,0) PR: Admission to Criminal Justice Master's program or C.I. An advanced examination of research methodology in criminal justice settings on such topics as problem conceptualization, sampling designs, research proposals, data collection, and evaluation techniques.
Fall,Spring,Even Summer
HPA - Department of Criminal Justice

CCJ 6705. Applied Criminal Justice Research
3(3,0) Upon successful completion of this course the student will gain an understanding of the major philosophical, theoretical, and conceptual approaches to evaluation research.
Occasional
HPA - Department of Criminal Justice

CCJ 6706. Data Analysis in Criminal Justice I
3(3,0) CCJ 6704 and admission to Criminal Justice MS or MPA/MSCJ Dual degree program Application of statistical software to quantitative and qualitative methods in Criminal Justice.
Fall,Spring,Odd Summer
HPA - Department of Criminal Justice

CCJ 6714. Data Analysis in Criminal Justice II
3(3,0) Admission to Criminal Justice Master's program and CCJ 6706. Application of multivariate linear and nonlinear statistical techniques to criminal justice issues. Focus is on selecting appropriate procedures, computer-based analysis and interpreting and applying results.
Occasional
HPA - Department of Criminal Justice

CCJ 6717. CJ Theories of Crime Analysis and Prevention
3(3,0) Admission to Criminal Justice M.S. program, Crime Analysis certificate or C.I. This course provides the theoretical foundation for crime analysis and crime prevention.
Fall
HPA - Department of Criminal Justice

CCJ 6719. Translational Criminal Justice
3(3,0) Admission to Criminal Justice master's program, CCJ 6704 or C.I. This course will serve as an advanced course for students wishing to gain an in-depth understanding of how research in the areas of policing, courts and corrections can be translated into practice.
Fall,Spring,Summer
HPA - Department of Criminal Justice

CCJ 6730. Planned Change and Innovation in Criminal Justice
3(3,0) PR: Admission to M.S. in Criminal Justice, Criminal Justice graduate certificate, or C.I. This course will provide participants with an understanding of planned individual and organizational change so that they may become successful agents of such change.
Occasional
HPA - Department of Criminal Justice

CCJ 6902. Qualitative Criminal Justice Research Methods
3(3,0) Admission to Criminal Justice PhD, or C.I. This course provides the theoretical and methodological foundation for conducting and assessing qualitative criminal justice research.
Occasional
HPA - Department of Criminal Justice

CCJ 6934. Criminal Justice, Crime, and Popular Culture
3(3,0) PR: Graduate standing or C.I. Explore how Criminal Justice System, criminals, and crime are portrayed in entertainment and news media, and the effects portrayals have on society and criminal justice.
Occasional
HPA - Department of Criminal Justice

CCJ 6938. Special Topics in Criminal Justice
VAR(VAR,VAR) Students are exposed to in-depth coverage of a particular contemporary problem in criminal justice, for example, the death penalty or the influence of the media on crime and punishment.
Occasional
HPA - Department of Criminal Justice

CCJ 6946. Criminal Justice Practicum
VAR(VAR,VAR) Students will undertake a significant research project in a criminal justice agency. May be repeated for credit.

HPA - Department of Criminal Justice

CCJ 7019. Seminar in the Nature of Crime
3(3,0) Admission to Criminal Justice Ph.D. program. This course will cover the major criminological theories pertaining to the causes and consequences of criminal behavior, including early and contemporary perspectives.
Fall
HPA - Department of Criminal Justice

CCJ 7096. Seminar in Criminal Justice Systems
3(3,0) Admission into the Criminal Justice Ph.D. program. Coverage of the three central elements of the criminal justice system - policing, courts and corrections - and the primary factors affecting practices and operations of each.
Fall
HPA - Department of Criminal Justice

CCJ 7457. Seminar in Criminal Justice Theory
3(3,0) Admission to Criminal Justice Ph.D. program. This course examines the theoretical foundations of Criminal Justice. The focus is on explaining how and why Criminal Justice agents, agencies, and systems behave.
Fall
HPA - Department of Criminal Justice

CCJ 7708. Advanced Quantitative Methods for Criminal Justice Research
3(3,0) Admission to Criminal Justice Ph.D. program. This course will cover advanced regression techniques appropriate for analyzing experimental, quasi-experimental and observational criminal justice data including general linear, log- linear and multivariate models.
Spring
HPA - Department of Criminal Justice

CCJ 7725. The Geography of Crime: Theory and Methods
3(3,0) Admission to Criminal Justice Ph.D. program and CCJ 6073 and CCJ 6709 or equivalent. This course will cover key theoretical and practical approaches related to the understanding and examination of the geography of crime.
Occasional
HPA - Department of Criminal Justice

CCJ 7727. Advanced Research Methods in Criminal Justice
3(3,0) Admission to the Criminal Justice Ph.D. program. This course will cover advanced research design topics and methodologies used in criminal justice research including quantitative, qualitative and mixed method techniques.
Fall
HPA - Department of Criminal Justice

CCJ 7747. Hierarchical Linear Modeling in Criminal Justice Research
3(3,0) Admission to Criminal Justice Ph.D. program and CCJ 7708. Overview of techniques of hierarchical linear modeling with an emphasis on application in criminal justice research.
Occasional
HPA - Department of Criminal Justice

CCJ 7752. Structural Equation Modeling in Criminal Justice Research
3(3,0) Admission to Criminal Justice Ph.D. Program and CCJ 7708. Overview of techniques of structural equation modeling with an emphasis on application in criminal justice research.
Occasional
HPA - Department of Criminal Justice

CCJ 7775. Criminal Justice Research in the Community
3(3,0) Admission into the Criminal Justice Ph.D. program. This course addresses the history of community-based research, different models of community-based research, and challenges associated with conducting community-based research in criminal justice.
Spring
HPA - Department of Criminal Justice

CCJ 7785. Teaching Criminal Justice
3(3,0) CCJ 7096, CCJ 7019 and CCJ 7457. This course is designed to expose students to various pedagogical philosophies, approaches, technologies, and ethical issues from a criminal justice perspective.
Summer
HPA - Department of Criminal Justice

CDA 5106. Advanced Computer Architecture
3(3,0) PR: EEL 4768C. Modern processor design, instruction-level parallelism, thread-level parallelism, data-level parallelism, memory hierarchy, and I/O.
Fall,Spring
ECS - Department of Computer Science

CDA 5110. Parallel Architecture and Algorithms
3(3,0) PR: COT 4210, CDA 5106. General-purpose vs. special-purpose parallel computers; arrays, message-passing; shared-memory; taxonomy; parallelization techniques; communication synchronization and granularity; parallel data structures; automatic program restructuring.
Occasional
ECS - Department of Computer Science

CDA 6107. Parallel Computer Architecture
3(3,0) PR: CDA 5106. Principles and trade-offs in the design of parallel architectures, shared-memory, message-passing, dataflow, data-parallel machines, cache coherence protocols, and consistence models.
Spring
ECS - Department of Computer Science

CDA 6530. Performance Models of Computers and Networks
3(3,0) PR: Graduate standing or C.I. Performance models of computer systems and networks using probability models and discrete event simulations. Queuing theory and modeling tools.
Occasional
ECS - Department of Computer Science

CEG 5405. Seepage in Soils
3(3,0) PR: CEG 4011C. Principles of flow through soils; flow nets, analytical solutions; seepage forces, design of filters and drainage layers; dewatering, drainage in dams, embankments, and pavement systems.
Even Spring
ECS - Department of Civil, Environmental, and Construction Engineering

CEG 6065. Soil Dynamics
3(3,0) PR: CEG 4011C. Comprehensive coverage in calculating the dynamic response of foundations, presenting a variety of contemporary techniques for fields and laboratory.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CEG 6115. Foundation Engineering
3(3,0) PR: CEG 4012 or C.I. Analysis and design of spread footings, mat foundations, retaining walls, sheeting and bracing systems and pile foundations.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CEG 6317. Advanced Geotechnical Engineering
3(3,0) PR: CEG 4012 or C.I. Mechanics of soils and models; elasticity and plasticity of soil bodies; strength of soils and stability of soil structures.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CEG 7980. Dissertation
1-99(1-99,0) May be repeated for credit. Graded S/U.
Fall,Spring,Summer
ECS - Department of Civil, Environmental, and Construction Engineering

CEN 5016. Software Engineering
3(3,0) PR: COP 4331C. Application of formal software processes, engineering methods, and documentation standards to the development of large scale software systems. A team project is required.
Spring
ECS - Department of Computer Science

CEN 6075. Formal Specification of Software Systems
3(3,0) PR: Discrete math (equivalent to COT 3100C, MAD 2104, or MHF 3302) or C.I. Issues and current research in formal specification and verification of software-intensive systems. mathematical models and formalisms.
Odd Spring
ECS - Department of Computer Science

CEN 6087. Cloud Computing
3(3,0) PR: CDA 5106 or C. I. Introduces cloud computing, infrastructure, applications, architecture, resource management, security, cloud storage systems and networks for computer clouds.
Fall
ECS - Department of Computer Science

CES 5144. Matrix Methods for Structural Analysis
3(3,0) PR: CES 4100C or C.I. Implementation of the matrix methods for structural analysis that are commonly and currently used in practice and in research, special topics such as finite element formulations, special analysis procedures, and use of software packages.
Even Fall
ECS - Department of Civil, Environmental, and Construction Engineering

CES 5325. Bridge Engineering
3(3,0) PR: CES 4605 and CES 4702 or C.I. Bridge engineering fundamentals, design philosophies, analysis and design concepts for concrete and steel bridges, AASHTO specifications, Bridge rating, and introduction to Bridge health monitoring.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 5606. Advanced Steel Structures
3(3,0) PR: CES 4605. Behavior and design of steel buildings; emphasis on AISC-LRFD building code; complex connections, tension members, stability of compression members, laterally unsupported beams, frames, and beam columns.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 5706. Advanced Reinforced Concrete
3(3,0) PR: CES 4702 or C.I. Design of frames, two-way floor systems, shear walls; shear and torsion; compression field theory; inelastic analysis; wind and seismic design; introduction to prestressed concrete.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 5821. Masonry and Timber Design
3(3,0) PR: C.I. Structural properties of masonry and timber; design loads-codes and standards; analysis for axial loads, flexure and shear.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 6010. Structural Reliability
3(3,0) PR: STA 3032 and CES 4100C or equivalent course or C.I. Application of probability theory to classical and computational reliability methods for civil systems. Topics in component and system reliability, simulation, bounds, sensitivity, and model updating.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 6116. Finite Element Structural Analysis
3(3,0) PR: CES 5144 or C.I. Concept, theory, and application of the finite element method; analysis of one-, two-, and three-dimensional structural components and systems; stability and dynamics; applications.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 6209. Dynamics of Structures
3(3,0) PR: C.I. Response analysis of single and multi-degree-of-freedom systems to periodic and non-periodic excitations; continuous systems; response spectra; applications in structural engineering.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 6220. Wind and Earthquake Engineering
3(3,0) PR: CES 6209 or C.I. Wind characteristics; wind effects on structures; dynamic analysis for wind loads; nature of earthquake forces; response spectra and seismic design; wind and seismic codes.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 6230. Advanced Structural Mechanics
3(3,0) PR: C.I. Review of biaxial bending and torsion; plate bending; theory of elasticity, visco-elasticity and plasticity; anisotropic elasticity and stability.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 6527. Nonlinear Structural Analysis
3(3,0) PR: CES 5144 or C.I. Structural nonlinear analysis theory and applications, including material and geometric nonlinearity, numerical methods and solution strategies, inelastic element formulation, and use of software packages.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 6715. Prestressed Concrete Structures
3(3,0) CES 4702 and CES 5706 or C.I. Prestressed concrete behavior and design; applications in building and bridge design including pre- and post-tensioned girders, floors, roofs, and walls.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 6840. Composite Steel Concrete Structures
3(3,0) CES 5606 and CES 5706 or C.I. Fundamentals of composite action; high performance materials, design of composite beams, slabs, beam-columns, joints; applications of prestressing; composite buildings and bridges; construction methods.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CES 6910. Research in Structural Engineering
3(3,0) C.I. Behavior and design of steel, concrete, or composite structures under cyclic, wind, earthquake, impact, or blast loading.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CGN 5506. Advanced Pavement and Civil Engineering Materials
3(3,0) CGN 3501C, CEG 4011C. Pavement and civil engineering materials such as aggregate, Portland cement, and concrete. In addition, mechanics, modeling, analysis, and design of those materials will be included.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CGN 5877. Monitoring for Infrastructure Systems
3(3,0) One of the following; CES 4100C, ENV 4120, ENV 4561, CWR 4203C, CWR 4101C or CCE 4004. Applications of modern instrumentation and data processing technologies to infrastructure monitoring and assessment. Topics in current and state-of-the-art monitoring techniques, SHM for infrastructure systems, and case studies on performance-based evaluation.
Odd Spring
ECS - Department of Civil, Environmental, and Construction Engineering

CGN 6655. Regional Planning, Design, and Development
3(3,0) Project course dealing with planning, design, and development of regional systems, including projections, case studies, design alternatives, environmental impact, etc.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CGS 5131. Computer Forensics I: Seizure and Examination of Computer Systems
3(3,0) PR: Computer literacy and C.I. Legal issues regarding seizure and chain of custody. Technical issues in acquiring computer evidence. Popular file systems are examined. Reporting issues in the legal system.
Fall
ECS - Department of Computer Science

CHM 5225. Advanced Organic Chemistry
3(3,0) PR: CHM 2211, graduate status or senior standing, or C.I. Theoretical and physical organic concepts of organic systems from the perspective of modern structural theory, thermodynamics, and kinetics.
Odd Fall
COS - Department of Chemistry

CHM 5235. Applied Molecular Spectroscopy
3(3,0) PR: CHM 3120 and CHM 2211, and graduate status or senior standing or C.I. Determination of chemical structure through interpretation of UV, IR, NMR and Mass Spectra.
Occasional
COS - Department of Chemistry

CHM 5305. Applied Biological Chemistry
3(3,0) CHM 2211, and graduate status or senior standing or C.I. The identification from plants, synthesis, assessment of bioactivity, and design of pharmaceuticals and agrochemicals, as well as the impact of biotechnology in the chemical industry.
Occasional
COS - Department of Chemistry

CHM 5450. Polymer Chemistry
3(3,0) PR: CHM 2211, and graduate status or senior standing or C.I. An introduction to the chemistry of synthetic polymers. Synthetic methods, polymerization mechanisms, characterization techniques, and polymer properties will be considered.
Even Fall
COS - Department of Chemistry

CHM 5451C. Techniques in Polymer Science
3(1,5) PR: CHM 2211 and CHM 3410, graduate status or senior standing, or C.I. A laboratory and lecture course designed to introduce students to the major polymerization mechanisms along with polymer characterization and processing methods using modern instrumentation.
Odd Spring
COS - Department of Chemistry

CHM 5580. Advanced Physical Chemistry
3(3,0) CR: CHM 3411 and PR: MAC 2313, and graduate standing or senior standing or C.I. Selected topics of thermodynamics, kinetics, quantum mechanics, and structure.
Occasional
COS - Department of Chemistry

CHM 5715C. Optical Materials Processing and Characterization Techniques
3(2,3) CHM 3411 and CHM 4610 or equivalent. Glasses, crystals and polymeric materials will be processed and characterized for their properties. Laboratory will emphasize material structure and physical property relationships.
Occasional
COS - Department of Chemistry

CHM 6134. Advanced Instrumental Analysis
3(3,0) CHM 6710. Advanced instrumental techniques related to luminescence spectroscopy and applications to chemical analysis.
Occasional
COS - Department of Chemistry

CHM 6278. The Organic Chemistry of Drug Design
3(3,0) CHM 2211 (or equivalent) and C.I. Drug design and action using the principles of organic chemistry.
Occasional
COS - Department of Chemistry

CHM 6440. Kinetics and Catalysis
3(3,0) PR: Must meet proficiency requirement as determined by the Chemistry Department or C.I. Classical kinetics with an emphasis on industrial applications and current catalysis methodologies.
Spring
COS - Department of Chemistry

CHM 6449. Photochemistry
3(3,0) PR: Graduate standing or C.I. Photochemistry with an emphasis on principles, mechanisms, and applications, such as photolithography, photonics, medicine, and environmental remediation.
Occasional
COS - Department of Chemistry

CHM 6492. Atomic Spectroscopy
3(3,0) PR: CHM 3120 or C.I. Includes theory and instrumentation for atomic absorption and emission spectroscopy with focus on their applications in various fields including forensic science.
Occasional
COS - Department of Chemistry

CHM 6620. Solid State Inorganic Chemistry
3(3,0) PR: CHM 4610, or C.I. Structure and chemistry of novel solid-state inorganic materials and their emerging applications.
Occasional
COS - Department of Chemistry

CHM 6710. Applied Analytical Chemistry
3(3,0) PR: Must meet proficiency requirement as determined by the Chemistry department or C.I. Concepts in molecular structure that integrate structural, physical, and chemical properties with aspects of industrial and analytical chemistry.
Fall
COS - Department of Chemistry

CHM 6711. Chemistry of Materials
3(3,0) PR: CHM 2211, CHM 4130C, and CHM 3411, or C.I. Structure and properties of chemical products, with an emphasis on the correlation between molecular form and the functional properties deemed desirable for the product.

COS - Department of Chemistry

CHM 6936. Graduate Chemistry Seminar
1(1,0) PR: C.I. Students attend faculty-level seminars for multiple semesters dictated by their program. Students will need to complete CITI during first semester.
Fall,Spring
COS - Department of Chemistry

CHS 5502. Principles of Forensic Science
3(3,0) PR: Admission to Forensic Science MS program or C.I. Principles of forensic science crime scene investigation, concepts in physical and biological evidence, evidence collection and transport, discrimination and individualization of evidence.
Even Spring
COS - Department of Chemistry

CHS 5504. Topics in Forensic Science
3(3,0) PR: Admission to Digital Forensics M.S. or Computer Forensics graduate certificate or C.I. History and current topics in Forensic Science.
Fall
COS - Department of Chemistry

CHS 5507. Chemometric Applications in Forensic Science
3(3,0) CHS 5504 or C.I. Modern methods of evaluating the evidential value of forensic data from physical evidence, including fibers, glass, ignitable liquids and others.
Odd Spring
COS - Department of Chemistry

CHS 5518. The Forensic Collection and Examination of Digital Evidence
3(3,0) PR: Adv topics in Forensic Science, graduate status, or C.I. This course will cover the nature of Digital Evidence collection and examination under the constraints of Law and courtroom procedures.
Summer
COS - Department of Chemistry

CHS 5596. The Forensic Expert in the Courtroom
3(3,0) PR: CHS 3533, CHS 6535, CHS 6536, or C.I. A study of the uses of technically and scientifically trained expert witnesses at trial.
Even Spring
COS - Department of Chemistry

CHS 6240. Chemical Thermodynamics
3(3,0) PR: Must meet proficiency requirement as determined by the Chemistry department or C.I. Classical and statistical thermodynamics with emphasis on industrial applications and estimation methods.
Fall
COS - Department of Chemistry

CHS 6251. Applied Organic Synthesis
3(3,0) PR: Must meet proficiency requirement as determined by the Chemistry department or C.I. A survey of chemical syntheses from both a product-oriented standpoint and a process-oriented standpoint. Relevant examples from the pharmaceutical and agricultural chemical industries.
Spring
COS - Department of Chemistry

CHS 6260. Chemical Unit Operations and Separations
3(3,0) PR: CHM 3411. A study of the elements and dynamics that are fundamental to industrial separation methods and transport processes.
Even Fall
COS - Department of Chemistry

CHS 6261. Chemical Process and Product Development
2(2,0) C.I. Development of chemical products and processes including the determination of technical economic feasibility; use of experiment design in the optimization of variables and scale-up methods.

COS - Department of Chemistry

CHS 6509. Advanced Forensic Microscopy
3(3,0) Graduate standing or C.I. In-depth description of microscopic techniques (from stereoscope to PLM to SEM), micro-spectroscopy (from polarization to absorption, emission, vibrational spectroscopy to EDS) and sample analysis.
Odd Spring
COS - Department of Chemistry

CHS 6513. Quality Assurance for Forensic Scientists
3(3,0) Admission into M.S. Forensic Science program and C.I. Principles and concepts of quality assurance for forensic scientists. Includes a study of national analytical and accreditation standards.
Odd Fall
COS - Department of Chemistry

CHS 6535. Forensic Molecular Biology
3(3,0) PR: PCB 4524, C.I.; and must have successfully completed undergraduate courses in statistics and biology. Procedures for recovering and typing DNA from evidentiary materials and the interpretation of data.
Fall
COS - Department of Chemistry

CHS 6535L. Forensic Analysis of Biological Materials
3(1,6) PR: CHS 6535, PCB 4524, C.I. and satisfaction of biology requirements. A laboratory course for forensic molecular biologists covering the procedures for recovering and typing DNA from evidentiary materials.
Occasional
COS - Department of Chemistry

CHS 6536. Population Genetics and Genetic Data
3(3,0) PR: C.I. and must have successfully completed undergraduate courses in statistics and biology. Analysis of laboratory derived DNA data and how they can be applied in an occupational context.
Fall
COS - Department of Chemistry

CHS 6545. Forensic Analysis of Explosives
3(3,0) Admission into Forensic Science M.S. program or C.I. Modern analytical methods and protocols for the forensic analysis of low and high explosives. Analysis of pure materials and post-blast residues will be covered along with scene search and recovery protocols.
Odd Spring
COS - Department of Chemistry

CHS 6546. Forensic Analysis of Ignitable Liquids
3(3,0) Admission into Forensic Science M.S. or C.I. Modern analytical methods and protocols for the forensic analysis of ignitable liquids. Ignitable liquid production as relates to ASTM classification, sampling methods, databases and modern methods of data analysis.
Even Spring
COS - Department of Chemistry

CHS 6613. Current Topics in Environmental Chemistry
3(3,0) PR: CHM 2045C, CHM 2046, or the equivalent of a BS in biological, molecular, chemical or engineering sciences, or C.I. Advanced principles of environmental chemistry, environmental law, current remediation technologies and industrial practices relating to the environment.
Odd Spring
COS - Department of Chemistry

CHS 7938. Frontiers in Chemistry
1(1,0) PR: Admission to the PhD Chemistry program or C.I. Chemistry research seminar addressing current challenges, trends and opportunities in the chemical sciences. May be used in the degree program a maximum of 3 times.
Fall,Spring,Summer
COS - Department of Chemistry

CIS 5256. Software Development Leadership
3(3,0) COP 4331C and Computer Science major The course teaches the concepts necessary to manage software projects successfully, with a focus on software quality, effective development practices, team dynamics, appropriate leadership style.
Fall
ECS - Department of Computer Science

CIS 6206. Electronic Discovery for Digital Forensics Professionals
3(3,0) CGS 5131 or C.I. This course will introduce experienced digital forensics students to legal and practical issues regarding electronic discovery, including legal requirements, technical solutions and practical aspects.
Fall
ECS - Department of Computer Science

CIS 6207. The Practice of Digital Forensics
3(3,0) PR: CGS 5131 and CNT 6418, or C.I. Application of digital scientific techniques to solve information assurance, forensic and legal problems.
Fall,Spring
ECS - Department of Computer Science

CIS 6386. Operating Systems and File System Forensics
3(3,0) PR: CGS 5131 or C.I. In-depth coverage of computer forensics related issues associated with multiple operating systems, multiple file systems, and applications.
Spring
ECS - Department of Computer Science

CIS 6395. Incident Response Technologies
3(3,0) PR: Digital Forensics MS major or CDA 5106 or COT 5405. This course covers security incidents and intrusions. Topics include: identifying and categorizing incidents, responding to incidents, log analysis, network traffic analysis, and tools.
Fall
ECS - Department of Computer Science

CJC 5020. Foundations of Corrections
3(3,0) PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. Provides an overview of correctional process in U.S., including philosophical foundations and contemporary practices.
Occasional
HPA - Department of Criminal Justice

CJC 6135. Seminar in Institutional Corrections
3(3,0) Admission to the Criminal Justice Ph.D. Public Affairs (Criminal Justice track) Ph.D. program or C.I. This course will provide an overview and analysis of institutional corrections from an historical, philosophical, theoretical and empirical perspective.
Spring
HPA - Department of Criminal Justice

CJC 6165. Seminar in Community Corrections
3(3,0) Admission to Criminal Justice Ph.D. program, Public Affairs (Criminal Justice track) Ph.D. program or C.I. Provides an overview and analysis of community-based punishment polices and practices, focusing on issues related to community-corrections programs, professionals, and role of community in controlling crime.
Summer
HPA - Department of Criminal Justice

CJC 6486. Seminar in Correctional Effectiveness
3(3,0) Admission to Criminal Justice Ph.D. or Public Affairs (Criminal Justice track) Ph.D. program or C.I. Provides an overview and analysis of issues pertaining to correctional evaluation, focusing on the various effects of punishment on the offender, the criminal justice system, and society.
Fall
HPA - Department of Criminal Justice

CJC 7029. Advanced Seminar in Corrections
3(3,0) PR: Doctoral standing or C.I. Students integrate theory and empirical data to critically analyze issues in corrections practice and policy.
Spring
HPA - Department of Criminal Justice

CJE 5021. Foundations of Law Enforcement
3(3,0) PR: Admission to Criminal Justice graduate program, graduate certificate program, or C.I. Examines police role in modern society and law enforcement policy.
Occasional
HPA - Department of Criminal Justice

CJE 6120. Personnel Management in Criminal Justice Organizations
3(3,0) PR: Admission to M.S. in Criminal Justice or C.I. This course provides a general overview of the issues and problems in the management of criminal justice agencies with an emphasis on best practices.
Occasional
HPA - Department of Criminal Justice

CJE 6320. Seminar in Police Administration
3(3,0) Admission to Criminal Justice Ph.D. or Public Affairs (Criminal Justice track) Ph.D. program or C.I. Administration and operational task of police organization, including exercise and control of discretion, hierarchies and divisions of labor, incentive structures, and evaluation of effectiveness and efficiency of police operations.
Fall
HPA - Department of Criminal Justice

CJE 6456. Seminar in Policing Urban Communities
3(3,0) Admission into the Criminal Justice Ph.D. or Public Affairs (Criminal Justice track) Ph.D. programs or C.I. This course concentrates on the urban communities of the United States and delves into the issues that affect the type of policing that occurs in these locales.
Spring
HPA - Department of Criminal Justice

CJE 6688. Cyber Crime and Criminal Justice
3(3,0) PR: CCJ 5015 or C.I. Deals with the problem of cyber crime and the criminal use of the Internet. Includes investigation, enforcement and legal issues.
Occasional
HPA - Department of Criminal Justice

CJE 6706. Seminar in Police Socialization and Culture
3(3,0) Admission to the Criminal Justice Ph.D. or Public Affairs (Criminal Justice track) program or C.I. This course examines the orgins and correlates of socialization and culture operating within the internal and external environments of policing.
Fall
HPA - Department of Criminal Justice

CJE 6718. Proseminar in Criminal Justice
3(3,0) PR: C.I. Capstone experience for the Criminal Justice Professional track. Reviews and integrates the six other courses in the core curriculum.
Fall
HPA - Department of Criminal Justice

CJE 7029. Advanced Seminar in Law Enforcement
3(3,0) PR: Doctoral standing or C.I. Students integrate theory and empirical data to critically analyze issues in law enforcement practice and policy.
Fall
HPA - Department of Criminal Justice

CJJ 6020. The Juvenile Justice System
3(3,0) PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. This course will focus on the development and philosophy of the Juvenile Justice System; the measurement of delinquency, theories and correlates of delinquency and prevention.
Fall
HPA - Department of Criminal Justice

CJJ 6124. Seminar in Prosecuting Juvenile Offenders
3(3,0) Admitted to Criminal Justice Ph.D. Program or Public Affairs (Criminal Justice track) Ph.D. program or C.I. This course will provide students with an advanced understanding of the theory and research surrounding the major decision-making stages in the juvenile court process.
Summer
HPA - Department of Criminal Justice

CJJ 6126. Seminar in Juvenile Corrections
3(3,0) Admitted to Criminal Justice Ph.D. or Public Affairs (Criminal Justice track) Ph.D. program or C.I. This course will focus on community and institutional correctional settings in juvenile justice, evidence-based screening and assessment techniques, and juvenile justice interventions and their effectiveness.
Fall
HPA - Department of Criminal Justice

CJJ 6546. Seminar in Policing and Prevention in the Juvenile Justice System
3(3,0) Admitted to Criminal Justice Ph.D. program or Public Affairs Ph.D. Criminal Justice track or C.I. This course will provide students with an advanced understanding of the initial stages of the juvenile system and the strategies used to intervene.
Spring
HPA - Department of Criminal Justice

CJL 5049. International Perspectives on Law and Justice
3(3,0) Graduate standing or C.I. Examination of the legal and criminal justice systems of other nations and territories through lecture, seminar, research and field visits.
Occasional
HPA - Department of Criminal Justice

CJL 6520. American Criminal Courts
3(3,0) PR: Admission to Criminal Justice graduate program or C.I. Critically study and evaluate day-to-day discretionary decisions of prosecutors, judges and defense attorneys and identify how their decisions shape the broad discretionary power this institution yields.
Spring
HPA - Department of Criminal Justice

CJL 6568. Law and Social Control
3(3,0) PR: Admission to Criminal Justice graduate program, graduate certificate, or C.I. This course will examine the types of behavior the state has sought to control and the means employed to exert such control.
Occasional
HPA - Department of Criminal Justice

CJL 7029. Advanced Seminar in Court Processes and Procedures
3(3,0) PR: Doctoral standing or C.I. Students integrate theory and empirical data to critically analyze issues in court processes and procedures.
Summer
HPA - Department of Criminal Justice

CLP 5166. Advanced Abnormal Psychology
3(3,0) PR: Graduate status or senior standing or C.I. Consideration of classification, causation, management and treatment of emotional disorders. Review of theories and research in the field. Lecture/Laboratory.
Occasional
COS - Department of Psychology

CLP 5187. Mental Health and Aging
3(3,0) PR: Graduate status or senior standing or C.I. Introduction to assessment and intervention issues, practice and research related to problems with cognitive and emotional functioning among older adults. May be repeated for credit.
Occasional
COS - Department of Psychology

CLP 6181. Psychological Theories of Substance Abuse Treatment
3(3,0) PR: Acceptance to Clinical Psychology PhD program or C.I. The mechanisms responsible for, and the treatment of, substance tolerance and dependence. This course is intended for the PhD in Clinical Psychology, in certain instances graduate students in other programs may enroll.
Occasional
COS - Department of Psychology

CLP 6191. Multicultural Psychotherapy
3(3,0) PR: Graduate standing and C.I. The theories, issues, and techniques of counseling within a multicultural environment.
Occasional
COS - Department of Psychology

CLP 6195C. Introduction to Psychotherapy
3(2,2) PR: Graduate admission and C.I. Counseling theory with experimental lab component including practice in specific techniques in counseling.
Odd Spring
COS - Department of Psychology

CLP 6321. Psychotherapy in Community Settings
3(3,0) PR: Acceptance to Clinical Psychology PhD program or C.I. Survey of the community agencies that deliver mental health/counseling services. Includes on-site visits to local agencies. This course is intended for the PhD in Clinical Psychology; in certain instances graduate students in other programs may enroll. Graded S/U.
Occasional
COS - Department of Psychology

CLP 6441C. Individual Psychological Assessment I
3(2,2) PR: Graduate admission and C.I. Theory and techniques of psychological assessment with emphasis on intake interviewing, cognitive and personality assessment, and report writing.
Fall
COS - Department of Psychology

CLP 6449C. Career and Lifestyle Assessment
3(2,1) PR: CLP 6441C or C.I. Application and theory of obtaining, integrating, and utilizing career, vocational, and lifestyle assessment in clinical settings such as rehabilitation centers, mental health centers, and hospitals.
Spring
COS - Department of Psychology

CLP 6457C. Group Psychotherapy
3(2,2) PR: Graduate admission and C.I. Group counseling: theory and practice. Experiential group laboratory.
Occasional
COS - Department of Psychology

CLP 6459C. Human Sexuality, Marriage, and Sex Therapies
3(2,2) PR: Graduate admission, and C.I. Human sexuality, theory and practice of specific techniques of marriage and sex therapy.
Occasional
COS - Department of Psychology

CLP 6460C. Introduction to Child, Adolescent, and Family Therapies
3(2,2) PR: Graduate admission, and C.I. Theories and practices of child, adolescent and family therapies. Includes practice in specific techniques.
Occasional
COS - Department of Psychology

CLP 6461. Cognitive-Behavioral Therapy
3(3,0) PR: Must be enrolled in the Clinical Psychology PhD Program. Covers theory, outcomes, and methods of cognitive-behavioral therapy. Includes discussion of variations of CBT, as targeted to particular psychiatric disorders.

COS - Department of Psychology

CLP 6932. Ethical and Professional Issues in Mental Health Practices
3(3,0) PR: Graduate admission, C.I. Examination of codes of ethics, laws, and professional standards in the mental health field. Graded S/U.
Occasional
COS - Department of Psychology

CLP 6949. Predoctoral Internship
1(0,40) PR: Acceptance to Clinical Psychology Ph.D. program or C.I. Placement in an approved setting on a full-time basis for one calendar year. Required of all clinical Ph.D. students. This course is intended for the Ph.D. in Clinical Psychology, in certain instances graduate students in other programs may enroll. Graded S/U.
Fall,Spring,Summer
COS - Department of Psychology

CLP 7125. Adult Psychopathology
3(3,0) PR: Admission to Clinical Psychology PhD or C.I. Clinical presentation and etiological theories of psychological disorders in adults.
Spring
COS - Department of Psychology

CLP 7136. Child Psychopathology
3(3,0) PR: Admission to Clinical Psychology PhD or C.I. Clinical presentation and etiological theories of psychological disorders in children and adolescents.
Fall
COS - Department of Psychology

CLP 7145C. Introduction to Clinical Psychology and Psychotherapy
1(1,1) PR: Admission to the Clinical Psychology Ph.D. program or C.I. A historical look at clinical psychology, psychotherapy, and clinical research. May be used in the degree program a maximum of 2 times only when course content is different.
Fall,Spring,Summer
COS - Department of Psychology

CLP 7378. Proseminar in Professional Psychology
3(3,0) PR: Admission to Clinical Psychology PhD or C.I. Survey of psychologists' roles in administration, supervision, and treatment development.
Odd Spring
COS - Department of Psychology

CLP 7429. Clinical Neuropsychological Assessment
3(3,0) PR: Admission to Clinical Psychology Ph.D. program or C.I. Provides foundational knowledge in clinical neuropsychological assessment, with a focus on assessment of adult clinical patients by doctoral-level clinical psychologists.
Occasional
COS - Department of Psychology

CLP 7446C. Child Psychological Assessment
3(2,2) PR: Admission to Psychology Ph.D. Clinical track or C.I. Emphasis is placed on theories and techniques of psychological assessment with children and adolescents. Primary emphasis on interviewing, observation skills, and administering intelligence tests.
Spring
COS - Department of Psychology

CLP 7447C. Adult Psychological Assessment
3(2,2) PR: Admission to Psychology PhD Clinical track or C.I. Theory and techniques of adult psychological assessment with emphasis on intake interviewing, cognitive and personality assessment, and report writing.
Fall
COS - Department of Psychology

CLP 7474. Child Empirically Supported Treatments
3(3,0) PR: Admission to Clinical Psychology PhD or C.I. Empirically supported psychological and pharmacological treatments for children and adolescents.
Odd Spring
COS - Department of Psychology

CLP 7494. Adult Empirically Supported Treatments
3(3,0) PR: Admission to Clinical Psychology PhD or C.I. Empirically supported psychological and pharmacological treatment for adults.
Odd Fall
COS - Department of Psychology

CLP 7623. Ethical and Professional Issues in Clinical Psychology
3(3,0) PR: Admission to Clinical Psychology PhD or C.I. APA Code of Ethics, relevant laws, and professional standards in clinical psychology.
Fall
COS - Department of Psychology

CLP 7942L. Supervision Practicum
1(0,3) PR: Admission to Clinical Psychology Ph.D. program or C.I. Advanced practicum focused on learning in didactic and experiential effective clinical supervision. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
COS - Department of Psychology

CLP 7943C. Clinical Practicum
VAR(VAR,VAR) PR: Acceptance to Clinical Psychology Ph.D. program or C.I. Clinical activities performed in an approved university or community setting under faculty/staff supervision. This course is intended for the Ph.D. in Clinical Psychology, in certain instances graduate students in other programs may enroll. Graded S/U. May be used in the degree program up to a maximum of 12 credits.
Fall,Spring,Summer
COS - Department of Psychology

CNT 5008. Computer Communication Networks Architecture
3(3,0) PR: EEL 4768C. Computer networks, layers, protocols and interfaces, local area networks networking.
Fall
ECS - Department of Computer Science

CNT 5410L. Cyber Operations Lab
3(1,3) IDC 5602 or C.I. Programming, software, and hardware components for cybersecurity operations related to system administration, firewalls, cyber attack, cyber defense, security, secure architectures at network and computer level.
Summer
ECS - Department of Computer Science

CNT 5805. Network Science
3(3,0) Undergraduate degree in CS, EE, or CpE. The emerging science of complex networks and their applications. Focus will be on algorithms, mathematical theories, and computational methods that analyze complex networks and predict their behavior.
Even Fall
ECS - Department of Electrical Engineering and Computer Science

CNT 6418. Computer Forensics II
3(3,0) PR: CGS 5131 or C.I. Computer network protocols and security models, cryptography, network intrusion detection and prevention, digital evidence collection and legal issues involved in network forensics, wireless security and forensics.
Spring
ECS - Department of Computer Science

CNT 6519. Wireless Security and Forensics
3(3,0) PR: Digital Forensics MS major or CDA 5106 or COT 5405. Advanced topics in wireless network security, security management, cryptography, wireless forensics and related areas.
Fall
ECS - Department of Computer Science

CNT 6707. Advanced Computer Networks
3(3,0) PR: CNT 5008 or C.I. Recent advances in computer networks, overlay and multihomed networks, routing and multicasting, Internet friendly protocols, congestion control, QoS-differentiated services, cellular networks.
Spring
ECS - Department of Computer Science

COM 5312. Introduction of Communication Research
3(3,0) Graduate standing or C.I. Provides the foundational knowledge and skills for conducting research in graduate Communication coursework including both quantitative and qualitative approaches.
Fall,Spring,Summer
COS - Nicholson School of Communication

COM 5932. Topics in Communication Theory and Research
3(3,0) Admission to Communication M.A. program or C.I. In-depth examination of a particular area of communication theory and research, emphasizing major developments, current uses, implications for research, and overall impact on the field.
Occasional
COS - Nicholson School of Communication

COM 6008. Proseminar in Communication
3(3,0) PR: Admission to the Communication M.A. program or C.I. Introduction to the field of communication at the graduate level emphasizing skills and practices needed to succeed at the graduate level and as a professional in the field.
Fall,Spring
COS - Nicholson School of Communication

COM 6025. Health Communication
3(3,0) PR: Graduate standing and C.I. Examines issues of healthcare provider-patient communication, health literacy, public health, health in other cultures, ethics in health communication, and mass media health messages.
Occasional
COS - Nicholson School of Communication

COM 6046. Interpersonal Communication
3(3,0) PR: Graduate status. Survey of theoretical perspectives in interpersonal communication.
Spring
COS - Nicholson School of Communication

COM 6047. Interpersonal Support in the Workplace
3(3,0) PR: Graduate standing. Interpersonal theories relevant to understanding marginalization and building supportive relationships in the workplace.
Occasional
COS - Nicholson School of Communication

COM 6048. Communication in Close Relationships
3(3,0) PR: Graduate standing or C.I. Classic and contemporary theory of communication in close relationships.
Occasional
COS - Nicholson School of Communication

COM 6121. Communication Management
3(3,0) Analysis and development with reference to particular media. Organizational theory, structure, and behavior. Management principles and operations.
Occasional
COS - Nicholson School of Communication

COM 6145. Organizational Communication
3(3,0) PR: Graduate standing or C.I. Organizational communication theory, perspectives, methods and current issues that reflect the centrality of communication processes in constituting organizing and organizations.
Occasional
COS - Nicholson School of Communication

COM 6303. Qualitative Research Methods in Communication
3(3,0) PR: Admission to Communication M.A. or C.I. Examination of qualitative methods in communication with emphasis on interviewing, ethnography, focus groups, observational methods and data interpretation.
Fall,Spring
COS - Nicholson School of Communication

COM 6304. Quantitative Research Methods in Communication
3(3,0) PR: Admission to Communication M.A. program or C.I. Examination of quantitative methods in communication. Topics include experimental research design, sampling procedures, survey design, content analysis, and introduction to data analysis.
Fall,Spring,Summer
COS - Nicholson School of Communication

COM 6425. Symbolism in Terrorism
3(3,0) PR: Admission to the Communication M.A. program or C.I. Skills for, and approaches to, analyzing communication strategies used by terrorists in pursuing; their long-term objectives and goals.
Occasional
COS - Nicholson School of Communication

COM 6463. Studies in Intercultural Communication
3(3,0) PR: Graduate standing and C.I. Comprehensive survey of methodological and theoretical issues and concepts in intercultural and cross-cultural research.
Occasional
COS - Nicholson School of Communication

COM 6466. Persuasion in the Media
3(3,0) PR: Graduate standing or C.I. The underlying persuasive messages about cultural norms and values that are communicated through mass media channels such as movies, music, etc.
Occasional
COS - Nicholson School of Communication

COM 6467. Studies in Persuasion
3(3,0) PR: Graduate status. Analysis of research and major theoretical perspectives in persuasive communication.
Occasional
COS - Nicholson School of Communication

COM 6468. Communication and Conflict
3(3,0) Research seminar in the study of communication and conflict.
Occasional
COS - Nicholson School of Communication

COM 6525. Communication Strategy and Planning
3(3,0) PR: C.I. Focus on the creation of communication strategies in conjunction with overall organizational goals, with emphasis on decision making and management.
Occasional
COS - Nicholson School of Communication

COM 6815. Risk Communication
3(3,0) PR: Graduate standing or C.I. A message-centered approach to the study of risk communication. Establishes risk communication as a distinct sub-discipline within the communication discipline.
Occasional
COS - Nicholson School of Communication

COP 5021. Program Analysis
3(3,0) PR: COP 4020 and COT 4210 or C.I. Static analysis of programs including theoretical and practical limitations, data flow analysis, abstract interpretation, and type and effect systems. Tools to automate program analysis.
Even Spring
ECS - Department of Computer Science

COP 5537. Network Optimization
3(3,0) PR: Graduate standing or C.I. Techniques for modeling complex, interconnected systems as networks; optimization with graph theory; algorithms, data structures, and computational complexity; statistical methods for studying large, evolving networks.
Fall
ECS - Department of Computer Science

COP 5611. Operating Systems Design Principles
3(3,0) PR: COP 4600. Structure and functions of operating systems, process communication techniques, high-level concurrent programming, virtual memory systems, elementary queuing theory, security, distributed systems, case studies.
Spring
ECS - Department of Computer Science

COP 5621. Compiler Construction
3(3,0) COP4020 and COT 4210. Techniques in the design and implementation of compilers. Optimization, code generation, error recovery, attributed grammars. A project is required.
Odd Fall
ECS - Department of Computer Science

COP 5711. Parallel and Distributed Database Systems
3(3,0) PR: COP 4710. Storage manager, implementation techniques for parallel DBMSs, distributed DBMS architectures, distributed database design, query processing, multidatabase systems.
Occasional
ECS - Department of Computer Science

COP 6526. Parallel and Cloud Computation
3(3,0) COP 5711. The course introduces students to parallel computing across the hardware-software stack. Special emphasis is placed on parallel programming using emerging architectures and technologies.
Fall
ECS - Department of Electrical Engineering and Computer Science

COP 6614. Operating Systems Techniques
3(3,0) COP 5611. Techniques in the design and implementation of operating systems. Case studies of several experimental and commercial operating systems.
Occasional
ECS - Department of Computer Science

COP 6616. Multicore Programming
3(3,0) PR: COT 5405 or C.I. The course focuses on the computational principles, algorithms, and tools for multi-processor programming. Topics of study include programming models and frameworks, lock-free synchronization, transactional memory.
Occasional
ECS - Department of Computer Science

COP 6730. Transaction Processing
3(3,0) PR: COP 4710. Transaction models, transaction monitors, isolation concepts and lock manager implementation, log manager, transaction manager, file and buffer management, client-server computing.
Occasional
ECS - Department of Computer Science

COP 6731. Advanced Database Systems
3(3,0) PR: COP 5711. Selected topics concerning object-oriented databases, multimedia databases, active databases, temporal databases, spatial databases, and information systems.
Occasional
ECS - Department of Computer Science

COT 5405. Design and Analysis of Algorithms
3(3,0) PR: COT 4210. Classification of algorithms, e.g., recursive, divide-and-conquer, greedy, etc. Data Structures and algorithm design and performance. Time and space complexity analysis.
Fall,Spring
ECS - Department of Computer Science

COT 6410. Computational Complexity
3(3,0) PR: COT 5405. Properties of algorithms, computational equivalence of machines, time-space complexity measures, examples of algorithms of different complexity, classification of algorithms, classes P and NP.
Occasional
ECS - Department of Computer Science

COT 6415. Complexity of Parallel Computation
3(3,0) PR: CDA 5110, COT 6410. Theoretical models justification and buildability inherent parallelism and communication costs. Lower and upper complexity bounds. Parallel computation thesis. NC, SC classes; paradigms of parallel algorithms.
Occasional
ECS - Department of Computer Science

COT 6417. Algorithms on Strings and Sequences
3(3,0) PR: COT 5405 or C.I. Study of algorithms for exact and approximate string pattern matching, sequence alignment and multiple string alignment.
Occasional
ECS - Department of Computer Science

COT 6505. Computational Methods/Analysis I
3(3,0) PR: COT 5405. Analysis of direct and iterative solutions of systems of linear equations, eigenvalues and vectors and roots of nonlinear equations, error analysis.
Occasional
ECS - Department of Computer Science

COT 6600. Quantum Computing
3(3,0) PR: COT 5405. This course introduces basic concepts in quantum circuits and quantum algorithms.
Occasional
ECS - Department of Computer Science

COT 6602. Introduction to Quantum Information Theory
3(3,0) PR: COT 6600 Quantum Computing. Basic concepts in quantum information theory and quantum error correcting codes.
Occasional
ECS - Department of Computer Science

CPO 6038. Political Development
3(3,0) Admission to graduate degree-seeking program, or C.I. Analyze the political determinants of economic development and the economic causes of political outcomes such as democratization.
Occasional
COS - Department of Political Science

CPO 6058. Revolution and Political Violence
3(3,0) PR: Graduate Studies or C.I. Seminar addresses theory and analytical models of political revolutions and insurgencies with cases, especially Third World.
Occasional
COS - Department of Political Science

CPO 6067. Comparative Courts
3(3,0) Graduate standing or C.I. Courts in new nations and democracies, and their roles in national politics and issues of human rights.
Occasional
COS - Department of Political Science

CPO 6075. Comparative Political Economy
3(3,0) PR: Graduate standing. Seminar in the political economy of advanced industrial societies, dealing with the interplay of citizens, governments, the economy, and political institutions.
Occasional
COS - Department of Political Science

CPO 6091. Seminar in Comparative Politics
3(3,0) PR: Admission to a graduate degree-seeking program or C.I. Introduction to the theory and methodology of comparative politics, institutions, and contextual factors of selected political systems such as Canada, European, and Third World nations.
Even Spring
COS - Department of Political Science

CPO 6307. Issues in Latin American Politics
3(3,0) Graduate standing or C.I. Examines and evaluates major issues in Latin American politics employing political science theories and methodologies.
Occasional
COS - Department of Political Science

CPO 6446. Comparative Political Parties
3(3,0) PR: C.I. Theories of the formation, structure, organization, and behavior of political parties as well as theories of political party systems.
Occasional
COS - Department of Political Science

CPO 6729. Global Security in the Age of Migration
3(3,0) Graduate standing or C.I. Explore migration as the outcome and cause of security concerns, while introducing students to theories of migration, conflict, security, and border control policies.
Occasional
COS - Department of Political Science

CPO 6776. Comparative Rising Powers
3(3,0) PR: Admission to graduate degree-seeking program or C.I. The course examines key contemporary rising powers in Eurasia: China, India, and Russia. It focuses on a comparative analysis of the nature of their rise.
Occasional
COS - Department of Political Science

CPO 6785. Political and Economic Inequality in Comparative Perspective
3(3,0) Graduate standing or C.I. Examine economic and political inequality and the nature of the link between the two across the countries with different political and economic institutions.
Occasional
COS - Department of Political Science

CRW 5130. Form and Theory in Creative Writing
3(3,0) PR: Admission to Creative Writing MFA or C.I. Formal and theoretical study of creative writing of given genre (poetry, short fiction, etc). May be used in the degree program a maximum of 3 times.
Occasional
CAH - Department of English

CRW 5948C. Creative Writing Service Learning
3(2,1) PR: Admission to Creative Writing MFA or C.I. On-site experience leading and sharing creative writing in community settings. May be used in the degree program a maximum of 3 times.
Occasional
CAH - Department of English

CRW 6025. Advanced Graduate Writing Workshop
3(3,0) PR: Admission to the Creative Writing MFA and C.I. Writing and revising in one established form. Advanced Graduate Writing Workshop may be taken five times (for a total of 15 hours) in order to produce a book-length manuscript (fiction, poetry, or other genre). May be used in the degree program a maximum of 5 times.
Fall,Spring
CAH - Department of English

CRW 6806C. Teaching Creative Writing
3(2,1) PR: Graduate standing in MFA in Creative Writing program or C.I. Addresses trends in creative writing pedagogy, workshop alternatives, course design, classroom management, role of creative writing in academia.
Fall
CAH - Department of English

CRW 6976. Scholarship and Publication Models
3(3,0) PR: Admission to Creative Writing MFA, graduate standing or C.I. Overview of thesis-writing process from proposal to defense, and possible subsequent publication.
Occasional
CAH - Department of English

CWR 5125. Groundwater Hydrology
3(3,0) PR: CWR 4124C or C.I. Theories of groundwater movement, geological factors, analysis and design techniques, etc. Emphasis on practical considerations.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 5205. Hydraulic Engineering
3(3,0) PR: CWR 4202C or C.I. Concepts of fluid mechanics and hydrodynamics applied to natural and man-made flow of intent to civil and environmental engineering.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 5515. Numerical Methods in Civil and Environmental Engineering
3(3,0) PR: CWR 4202C or C.I. This course will present intermediate to advanced numerical methods theory and include code development and error assessment, while targeting civil and environmental engineering applications.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 5545. Water Resources Engineering
3(3,0) PR: CWR 4120 or C.I. Systems identification and solution to complex water allocation problems, and other hydraulic engineering designs and operations using economic analysis and operations research techniques.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 5634. Water Resources in a Changing Environment
3(3,0) PR: CWR 4120. To model and understand potential impact of climate change and human activities on hydriodic systems and various spatial and temporal scales.
Odd Fall
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 6007. Ecohydraulics
3(3,0) CWR 5634 OR Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology or C.I. Sustainable and multi-objective management of rivers, shorelines and aquatic resources, this course investigates fundamental linkages between physical processes and ecological responses in engineered and natural systems.
Even Spring
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 6102. Advanced Hydrology
3(3,0) PR: CWR 4120C or C.I. Single site and regional frequency analysis; modeling hydrologic systems; lumped and distributed event models for urban and natural drainage basins; continuous simulation; real-time forecasting.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 6126. Groundwater Modeling
3(3,0) PR: CWR 5125. Review of contemporary computer-based groundwater flow models and their application to environmental engineering problems.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 6235. Open Channel Hydraulics
3(3,0) PR: CWR 4202C or C.I. Free surface flow studies by empirical and theoretical methods for the design, operation, and management of open channels.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 6236. River Engineering and Sediment Transport
3(3,0) PR: CWR 4633C or C.I. River morphology and regime with stabilization and modification of river courses. Sediment transport including control methods and modeling.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 6535. Modeling Water Resources Systems
3(3,0) PR: CWR 4120 or C.I. Contemporary mathematical models for water quality and quantity considerations including computer-based hydraulic and hydrologic models.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 6539. Finite Elements in Surface Water Modeling
3(3,0) PR: CWR 5515 or C.I. This course explores finite element techniques as applied to surface water modeling, introduces theory and applications, and develops means by which errors can be appraised.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 6606. Stochastic River Network Hydro-Geomorphology
3(3,0) CWR 5125, CWR 5205, CWR 5545, CWR 5634 or C.I. Review of Probability and Statistics, Fourier and Wavelet Analysis, Fractal Characteristics of River basins, Self-organization, Modeling River Basins, River Basin response to Climatic and Anthropogenic Changes
Odd Spring
ECS - Department of Civil, Environmental, and Construction Engineering

CWR 6660. Water Policy, Planning and Governance
3(3,0) PR: CWR 4633C or C.I. This course deals with political, social, economic and administrative systems that affect the use, development, planning, and management of water resources at different levels.
Even Fall
ECS - Department of Civil, Environmental, and Construction Engineering

CYP 6942. Practicum in Psychological Counseling
3(3,0) PR: Admission to Clinical Psychology MA and CLP 6195C and CLP 6441C, or C.I. Training in psychotherapy skills in a community setting under faculty supervision. Graded S/U.
Spring
COS - Department of Psychology

CYP 6948C. Psychology Internship
VAR(VAR,VAR) PR: Clinical psychology MA students. Supervised placement in community setting for 10-30 hours per week. Graded S/U. May be repeated for credit.
Occasional
COS - Department of Psychology

DEP 5057. Developmental Psychology
3(3,0) PR: Graduate status or senior standing or C.I. Psychological aspects of development including intellectual, social, and personality factors.
Spring
COS - Department of Psychology

DIG 5045C. Principles of Interactive Entertainment I
3(1,3) PR: Admission to Digital Media MS program or C.I. Interactive digital content creation technologies and development processes.
Fall
CAH - Florida Interactive Entertainment Academy

DIG 5046C. Principles of Interactive Entertainment II
3(1,3) PR: DIG 5045C or C.I. Advanced principles of interactive digital content creation technologies and development processes.
Fall
CAH - Florida Interactive Entertainment Academy

DIG 5137. Information Architecture
3(3,0) PR: Film and digital media majors or C.I. Exploration of the process of formal design of interactive processes, examining the theories of usability and object oriented design.
Fall
CAH - School of Visual Arts and Design

DIG 5348C. Digital Asset Creation
3(1,3) Admission to FIEA MS in Interactive Entertainment program or C.I. Introduction to digital art asset creation fundamentals, including figure drawing, digital painting, 3d modeling, animation, character setup, technical art and contemporary game engine topics.
Fall
CAH - Florida Interactive Entertainment Academy

DIG 5366C. Animation and Visual Effects Production II
3(1,2) DIG 5386C Animation and Visual Effects Production I or C.I. Topics in animation and visual effects project creation and production pipeline management in a team environment.
Spring
CAH - School of Visual Arts and Design

DIG 5378C. Editing for Animation and Visual Effects I: Theory and Production
3(1,2) Emerging Media MFA - Animation and Visual Effects track student or C.I. Exploration of history and grammar of editing will be examined, adapted and applied to the specific needs of narrative animation and live-action visual effects.
Spring
CAH - School of Visual Arts and Design

DIG 5385C. Visual Effects for Animation and Live Action I
3(1,2) Emerging Media MFA - Animation and Visual Effects track student or C.I. Application of digital tools to generate visual effects animation for successful integration with animate and live action media, and the aesthetic critique of results.
Spring
CAH - School of Visual Arts and Design

DIG 5386C. Animation and Visual Effects Production I
3(1,2) Emerging Media MFA - Animation and Visual Effects track student or C.I. Production of a short animated or visual effects concept to completion with the focus on working as an individual to meet deadlines.
Fall
CAH - School of Visual Arts and Design

DIG 5387C. Visual Development and Design for Animation and Visual Effects
3(1,2) Emerging Media MFA - Animation and Visual Effects track student or C.I. Design concepts are applied to animation environments to create a "personality of place", visual continuity, and to create the visual universe of the story.
Spring
CAH - School of Visual Arts and Design

DIG 5439C. Script and Story Development for Animation and Visual Effects
3(1,2) Emerging Media MFA - Animation and Visual Effects track student or C.I. Students will write and storyboard original narrative short animation, or script and storyboard solutions addressing specific live action problems in visual effects.
Fall
CAH - School of Visual Arts and Design

DIG 5487. Principles of Visual Language
3(3,0) PR: Film and digital medial majors or C.I. Overview of Visual Language, including the nature of perceptions and cognitions of imagery.
Fall
CAH - School of Visual Arts and Design

DIG 5529C. Production for Media
3(1,3) PR: Admission to Digital Media MS program or C.I. Theories and practices of production processes for interactive entertainment.
Fall
CAH - Florida Interactive Entertainment Academy

DIG 5548C. Rapid Prototype Production I
3(1,3) PR: Admission to Digital Media MS or C.I. Students engage in interdisciplinary teams to create rapid development projects.
Fall
CAH - Florida Interactive Entertainment Academy

DIG 5549. Experimentation, Application, and Innovation in Games
3(3,0) PR: DIG 5529C or C.I. Survey and development of games being used in non-traditional applications, such as medical simulation, education and research.
Spring
CAH - Florida Interactive Entertainment Academy

DIG 5557. Production and Design I
3(3,0) Admission to FIEA MS in Interactive Entertainment program or C.I. Theory and methodology for creation and communication of videogame designs.
Fall
CAH - Florida Interactive Entertainment Academy

DIG 5565C. Digital Asset Management Systems
3(1,3) PR: Graduate standing or C.I. Structure and use of Digital Asset Management Systems (DAMS). Protection of intellectual property rights by encryption, water marking, steganography. Version and work process flow control systems.
Occasional
CAH - School of Visual Arts and Design

DIG 5637. Game Programming Fundamentals
3(3,0) Admission to FIEA M.S. in Interactive Entertainment program or C.I. An introduction to real-time game programming fundamentals, including computer architecture and low-level programming and optimization. Specific attention to game consoles and cross-platform software development.
Fall
CAH - Florida Interactive Entertainment Academy

DIG 5810. Ways of Seeing: Cultural and Technological Perspectives
3(3,0) PR: Admission to Film and Digital Media master's program or C.I. Cultural and technological perspectives formed by the intersection of media and cultural studies, art history and criticism, and cinema studies.
Fall
CAH - School of Visual Arts and Design

DIG 5856. Experimentation, Application and Innovation in Games
3(3,0) DIG 5529C or C.I. Survey and development of games being used in non-traditional applications, such as medical simulation, education and research.
Spring
CAH - Florida Interactive Entertainment Academy

DIG 5865. The History of Animation and Visual Effects
3(3,0) Emerging Media MFA - Animation and Visual Effects track student or C.I. History of animation and visual effects from beginning to present covering a wide-range of narrative, independent, commercial, and experimental projects produced throughout the world.
Fall
CAH - School of Visual Arts and Design

DIG 5876. Quantitative Aspects of Modeling and Simulation
3(3,0) PR: Graduate Standing or C.I. Introduction to matrix algebra and other discrete mathematics topics for modeling and simulation applications.
Spring
GRDST - Interdisciplinary Grad

DIG 6099. Media Distribution
3(3,0) DIG 6558 or C.I. Theory and practical application of videogame messaging, advertisement and distribution.
Summer
CAH - Florida Interactive Entertainment Academy

DIG 6136. Design for New Media
3(3,0) Admission to Emerging Media MFA or Digital Media MA program, DIG 5487, or C.I. Theories and practices of interactive design for digital media content.
Occasional
CAH - School of Visual Arts and Design

DIG 6365C. Media and Music for Animation and Visual Effects
3(2,1) Emerging Media MFA - Animation and Visual Effects track student or C.I. Course will examine the use and effect of music/sound effects in various forms of media: film, games, commercials, and other forms of multimedia.
Spring
CAH - School of Visual Arts and Design

DIG 6377C. Visual Effects for Animation and Live Action II
3(1,2) DIG 5385C Visual Effects for Animation and Live Action I or C.I. Integration of digital elements and live action footage and the aesthetic critique of those results.
Spring
CAH - School of Visual Arts and Design

DIG 6379C. Editing for Animation and Visual Effects II: Practical Editing
3(1,2) DIG 5XXXC Editing for Animation and Visual Effects I: Theory and Production or C.I. Students will apply practical editing solutions and incorporate audio to their own animation or visual effects material.
Fall
CAH - School of Visual Arts and Design

DIG 6384C. Directing for Animation and Visual Effects
3(1,2) Emerging Media MFA - Animation and Visual Effects track student or C.I. Topics in production planning and adaptation of live action directing techniques to unique problems in Animation and Visual Effects.
Fall
CAH - School of Visual Arts and Design

DIG 6388C. Animation and Visual Effects Production III
3(1,2) DIG 5XXXC Animation and Visual Effects Production II or C.I. Preproduction (including storyboards, visual development, and character and environmental design) for individual MFA thesis project created and presented for faculty approval.
Fall
CAH - School of Visual Arts and Design

DIG 6389C. Animation and Visual Effects Production IV
3(1,2) DIG 6XXXC Animation and Visual Effects Production III or C.I. Research and production of an initial animation test demonstrating the visual look and process strategy for final MFA thesis project and presentation for faculty approval.
Spring
CAH - School of Visual Arts and Design

DIG 6432. Transmedia Story Creation
3(3,0) PR: Film and digital media majors or C.I. Repurposing of traditional stories: creation of authentic environments and the emergence of new authoring scenarios.
Fall,Summer
CAH - School of Visual Arts and Design

DIG 6436. Ethnographic Storytelling & New Media
3(3,0) PR: Graduate standing. Theories and practices related to ethnographic storytelling using new media.
Odd Fall
CAH - Dean's Office - CAH

DIG 6546. Previsualization and Concept Development
3(3,0) PR: Film and digital medial majors, DIG 6136, or C.I. Skills and knowledge for planning and developing a new feature length film or digital media project.
Fall
CAH - School of Visual Arts and Design

DIG 6547C. Preproduction and Prototyping
3(1,3) PR: DIG 5529C or C.I. Standard pre-production process in interactive entertainment.
Fall
CAH - Florida Interactive Entertainment Academy

DIG 6551. Applied Interactive Story
3(3,0) PR: Film and digital media majors, DIG 6432, or C.I. Concepts and specific skills for creating scripts and programs for interactive digital media story experiences.
Fall
CAH - School of Visual Arts and Design

DIG 6558. Production and Design II
3(3,0) DIG 5557or C.I. Advanced principles of game design and production including integrating development skills into level designs and complete games.
Spring
CAH - Florida Interactive Entertainment Academy

DIG 6559C. Advanced Digital Asset Creation
3(1,3) DIG 5348 or C.I. Advanced techniques in digital asset specializations such as 2d art, mobile application art, 3d modeling and texturing, animation, lighting and effects and technical art topics.
Spring
CAH - Florida Interactive Entertainment Academy

DIG 6589C. Digital Asset Portfolio Development
3(1,3) DIG 6559C or C.I. Concentration in professional digital artist portfolio development in specializations such as 2d art, mobile application art, 3d modeling and texturing, animation, lighting and effects and technical art topics.
Summer
CAH - Florida Interactive Entertainment Academy

DIG 6605. Physical Computing
3(3,0) PR: DIG 5137. Introduces methods of connecting physical objects to microprocessor controllers in order to build original interactive components for research or artistic purposes.
Odd Spring
CAH - School of Visual Arts and Design

DIG 6635. Applied Programming Mechanics
3(3,0) DIG 6638 or C.I. Application of advanced software development principles for interactive entertainment.
Summer
CAH - Florida Interactive Entertainment Academy

DIG 6638. Advanced Game Programming
3(3,0) DIG 5637 or C.I. Advanced principles of software development for interactive entertainment.
Spring
CAH - Florida Interactive Entertainment Academy

DIG 6647. Science and Technology of Dynamic Media
3(3,0) PR: Film and digital media majors, DIG 5137 or C.I. Contemporary media theory and survey of scientific principles behind digital media production, synthesis, and evaluation.
Spring
CAH - School of Visual Arts and Design

DIG 6718C. Interactive Entertainment Project
3(1,3) PR: DIG 5046C or C.I. Students implement a complete game, based on designs pre-produced and prototyped in previous courses.
Fall
CAH - Florida Interactive Entertainment Academy

DIG 6785C. Advanced Interactive Entertainment
3(1,3) PR: DIG 6547C or C.I. Advanced techniques and application in programming, production, and development of professional portfolios.
Fall
CAH - Florida Interactive Entertainment Academy

DIG 6812. Digital Interaction for Informal Learning
3(3,0) PR: Graduate standing or C.I. Theories of digital media interaction that apply to the design of interfaces that help people learn in informal contexts.
Occasional
CAH - School of Visual Arts and Design

DIG 6825. Digital Media Research Methods
3(3,0) PR: Graduate standing and C.I. A review of quantitative research methods needed for digital media professionals.
Occasional
CAH - School of Visual Arts and Design

DIG 6836. Design and Development for Texts and Technology
3(3,0) PR: Graduate standing or C.I. A study of the applied design and development process on concepts and practices of literacy/electracy, including pedagogical, artistic, workplace, and leisure-based communicative practices.
Fall
CAH - Dean's Office - CAH

DIG 6866C. Technical Problem Solving for Animation and Visual Effects
3(1,2) Emerging Media MFA - Animation and Visual Effects track student or C.I. Addresses and solves unique problems presented by individualized graduate thesis projects in animation and visual effects.
Fall
CAH - School of Visual Arts and Design

DIG 6944C. Game Design Practicum
6(2,6) PR: DIG 5046C or C.I. Supervised experience supplementing theoretical and practical experiences involving new research developments or partnerships within industry.
Fall
CAH - Florida Interactive Entertainment Academy

DIG 6947C. Digital Venture Practicum
6(2,4) DIG 6718 or C.I. Principles and application of digital venture business development, IP rights, market research, iterative production, monetization, support and distribution as it relates to a start-up entity.
Fall
CAH - Florida Interactive Entertainment Academy

EAB 5765. Applied Behavior Analysis with Children and Youth
3(3,0) Graduate standing or senior standing or C.I. Advanced survey of principles, procedures, and techniques of applied behavior analysis, with special attention to applications with children and youth.
Occasional
COS - Department of Psychology

EAS 5123. Intermediate Aerodynamics
3(3,0) PR: EAS 4134; CR: EML 5060. Aerodynamic characteristics of airfoils, finite wings, waves, wing-body combinations, viscous flow and flow instabilities. Airfoil design.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EAS 5157. V/Stol Aerodynamics and Performance
3(3,0) PR: EAS 4105; CR: EML 5060. Momentum theory, blade element theory, hover and forward flight, stability, aeroelasticity.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EAS 5211. Aeroelasticity
3(3,0) PR: EAS 3101 or EML 3701 and EAS 4210 or EML 4220. Concerned with consequences and trade-offs created by interactions between aerodynamic forces and structural deformation. Static aeroelastic problems; control effectiveness; lift effectiveness; divergence. Dynamic aeroelasticity; flutter and vibration.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EAS 5302. Direct Energy Conversion
3(3,0) PR: EML 3101 and EML 4142. Direct methods of energy conversion; particular emphasis on fuel cells, thermoelectrics, thermionics, solar energy, photovoltaics and magnetohydrodynamics. Analysis and systems design.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EAS 5315. Rocket Propulsion
3(3,0) PR: EAS 4134 or EML 4703. Analysis and performance of rocket motors; selection and thermochemistry of chemical propellants: liquid and solid propellant rockets.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EAS 5407C. Mechatronic Systems
3(2,3) PR: EML 3034C. Discrete control techniques for aerospace mechatronic systems. Controller design, test and evaluation.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EAS 5535. Engineering Design for Aerospace Vehicles
3(3,0) PR: EAS 4700C, EAS 4710C, EML 4501C, EML 4502C, or equivalent. Applications of the design process to aerospace vehicles. A system approach will be emphasized. Techniques for optimizing interface requirements will be covered.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EAS 6138. Advanced Gas Dynamics
3(3,0) PR: EML 5713. CR: EML 5060. Analysis of steady and unsteady transonic, supersonic and hypersonic flows. Shock waves, nozzles, diffusers, and high speed wind tunnels.
Odd Fall
ECS - Department of Mechanical and Aerospace Engineering

EAS 6185. Turbulent Flow
3(3,0) PR: EML 5060 and EML 5713. Phenomena and methods of characterizing turbulence; spatial and temporal velocity correlation; energy spectra; transition prediction; turbulent boundary layer equations; hot wire and LDV measurement techniques.
Even Fall
ECS - Department of Mechanical and Aerospace Engineering

EAS 6403C. Attitude Determination and Control
3(2,3) EAS 6507, EML 5060. Spacecraft attitude dynamics and control. Pointing and stabilization methods. Optimal and learning algorithms applied to perturbation analysis.

ECS - Department of Mechanical and Aerospace Engineering

EAS 6405. Advanced Flight Dynamics
3(3,0) EAS 4105 or equivalent. Aerodynamic principles as applied to stability and control of aerospace vehicles. Generalized vehicle performance. Small disturbance dynamic stability and control response.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EAS 6415. Guidance, Navigation and Control
3(3,0) PR: EML 5060, EAS 6507. Inertial and GPS navigation techniques. Explicit and implicit guidance formulations. Robust control applications to aircraft, missile and space vehicles.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EAS 6507. Topics of Astrodynamics
3(3,0) PR: EML 5271 or C.I. Spacecraft attitude dynamics and control. Orbital mechanics. Optimal control of aerospace vehicles. Emphasis is on recent developments and applications.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EAS 6807C. Aerospace Measurements Instrumentation
3(2,3) PR: EAS 4134, EAS 3800C, EAS 6507, EML 5060, or C.I.; not open to students who have credit for EML 6308C. Inertial instruments (i.e.; gyros, accelerometers), thermal, fluid, optical sensors and actuators, for space and aerodynamic applications.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EAS 6808. Space Environment and Payload Instrumentation
3(3,0) EAS 4504, EML 5060 or C.I. Space environment and payload instrumentation. Characterization of space environment and payload instrumentation methods.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EBD 6117. Behavior Disorders in Schools
3(3,0) Basic Teacher Certificate or C.I. Assessment analysis of behavior disorders, cause and effects, identification and theories.

ED - Department of Child, Family and Community Sciences

EBD 6226. Theory and Application for Emotionally Handicapped
3(3,0) PR: C.I. Study of various approaches to use in teaching emotionally handicapped children interpersonal and cognitive skills with special emphasis on the severe and moderate populations.
Occasional
ED - Department of Child, Family and Community Sciences

ECM 6308. Current Topics in Parallel Processing
3(3,0) PR: C.I. Research topics in parallel architectures, including, but not limited to, systolic architectures, wavefront arrays, interconnection networks, reconfigurable architectures and fast algorithms. May be used in the degree program a maximum of 2 times.
Even Fall
ECS - Department of Electrical and Computer Engineering

ECO 5445. Introduction to Business Analytics
3(3,0) Admission to the Master's in Economics or C.I. Students are introduced to important tools of business analytics; first, UNIX, SQLite, and Python; then analyzing data using R and implementing numerical methods using Python.
Fall
BA - Department of Economics

ECO 6115. Economic Analysis of the Firm
3(3,0) PR: CBA Master's program of Study Foundation Core. Commodity price and output determination; factor price determination and functional income distribution; analysis of different types of markets.
Fall,Spring
BA - Department of Economics

ECO 6118. Microeconomic Theory I
3(3,0) PR: ECO 3101 (or equivalent), ECO 3410 (or equivalent), and ECO 6403 (concurrent enrollment), or C.I. Microeconomic principles governing individual decision-making relative to the theory of the firm and consumer choice.
Fall
BA - Department of Economics

ECO 6206. Macroeconomic Theory I
3(3,0) PR: ECO 3203 (or equivalent) and ECO 6403 (or equivalent), or C.I. An analysis of aggregate economic conditions including the determination of output, employment, and income levels.
Fall
BA - Department of Economics

ECO 6315. Seminar in Contemporary Economic Issues
3(3,0) PR: ECO 6118 or equivalent and ECO 6403 or equivalent. Discussion and analysis of current economic problems and issues. May be used in the degree program a maximum of 3 times only when course content is different.
Occasional
BA - Department of Economics

ECO 6403. Mathematical Economics
3(3,0) PR: ECO 3101 (or equivalent), ECO 3410 (or equivalent), and ECO 6118 (co-requisite), or C.I. Covers the foundations of economic theory with particular focus on the mathematical methods that are indispensable for proper understanding of the economic literature.
Fall
BA - Department of Economics

ECO 6404. Games and Economic Behavior
3(3,0) PR: Graduate standing and ECO 6118. The study of interactive and strategic behavior relying on Experimental Game Theoretic literature.
Even Fall
BA - Department of Economics

ECO 6405. Business Statistical Concepts and Methods
3(3,0) PR: Admission to Business Graduate Program. Fundamental statistical methods of data analysis used in business to enable managers to make more informed decisions under uncertainty. Descriptive and inferential concepts and methods, probability and probability distributions, 1- and 2-sample inference, experimental and survey design, analysis of variance, correlation, and regression analysis applied to business cases and actual business data. Statistical assumptions, limitations, ethical reporting issues are explored as well. Students use Excel and statistical software to perform computations and interpret standard output.
Summer
BA - Department of Economics

ECO 6416. Applied Business Research Tools
3(3,0) PR: Master's of Business Administration program foundation core courses; Core I Courses. Multivariate methods and related tools applied to analyze business and economic data as an aid in decision making.
Fall
BA - Department of Economics

ECO 6418. Economic Concepts with Math Applications
3(3,0) PR: Admission to CBA master's program. Business-based overview of microeconomic price and output determination through analysis of different types of markets with calculus. Algebraic formulation of macro economy, with emphasis on measuring economic activity, determination of macro equilibrium and forecasting using appropriate mathematical models for business decisions.
Spring,Summer
BA - Department of Economics

ECO 6424. Econometrics I
3(3,0) PR: ECO 6403 (or equivalent) and ECO 6118 (or equivalent), or C.I. Develops basic statistical methods and provides coverage of the general linear regression model, generalized least squares, generalized methods of moments, and multi-equation models.
Spring
BA - Department of Economics

ECO 6935. Capstone in Business Analytics I
3(3,0) Admission to the Master's in Economics or C.I. Provides students with the culminating academic experience, a forum in which to develop and carry out research of a well-defined business analytics problem.
Occasional
BA - Department of Economics

ECO 6936. Capstone in Business Analytics II
3(3,0) Admission to the Master's in Economics or C.I., Capstone I. Provides students with continuing culminating academic experience, a forum in which to write-up as well as present research of a well-defined business analytics problem.
Occasional
BA - Department of Economics

ECO 7116. Microeconomic Theory II
3(3,0) PR: ECO 6118 (or equivalent) and ECO 6403 (or equivalent). Advanced treatment of demand, production, cost, and market theory under varying competitive conditions.
Spring
BA - Department of Economics

ECO 7423. Applied Models I
3(3,0) PR: Acceptance in the PhD Program, and ECO 6416 or equivalent. Advanced coverage of standard regression methods and models plus nonparametric statistics.
Odd Fall
BA - Department of Economics

ECO 7426. Econometrics II
3(3,0) PR: ECO 6424 (or equivalent) or C.I. Covers estimation of static and dynamic panel data models, and limited dependent variable models as well as sample selection problems.
Fall
BA - Department of Economics

ECO 7428. Time Series
3(3,0) PR: ECO 6424 (or equivalent) or C.I. Advanced treatment of time series analytical techniques including vector autoregression, cointegration and nonstationarity.
Odd Spring
BA - Department of Economics

ECP 6309. Survey of Environmental and Natural Resource Economics
3(3,0) PR: ECO 6118 or equivalent and ECO 6403 or equivalent. A survey of the basic theoretical principles and the accompanying empirical work in environmental and natural resource economics.
Fall
BA - Department of Economics

ECP 6405. Industrial Organization
3(3,0) PR: ECO 6118 (or equivalent) and ECO 6403 (or equivalent). An analysis of firm behavior in imperfectly competitive markets, strategic behavior, and economic policy directed at promoting competitive behavior.
Odd Spring
BA - Department of Economics

ECT 6791. Research in Career Education
3(3,0) PR: EDF 6432 or EDF 6481 or C.I. Curricular, instructional, demographic, and trends research in the field of career education.

ED - Department of Child, Family and Community Sciences

ECW 5207. Management of Vocational Programs
2-4(2-4,0) PR: Rank III Certificate or C.I. Study and achievement of selected competencies needed by vocational teachers, supervisors, and local administrators in the management of vocational education programs in the schools.

ED - Department of Child, Family and Community Sciences

ECW 5265. Cooperative Programs in Vocational Education
2-4(2-4,0) PR: Regular Certificate or C.I. Study of cooperative vocational programs and achievement of competencies needed to establish, manage, and coordinate co-op program activities in all vocational areas.
Occasional
ED - Department of Child, Family and Community Sciences

ECW 5561. Student Guidance in the Vocational Program
2-3(2-3,0) PR: Basic Teacher Certificate or C.I. Achievement of skills used by teachers as they gather student data, confer with students, and help students plan for employment or further education.

ED - Department of Child, Family and Community Sciences

ECW 6067. History of Career Education in the United States
3(3,0) PR: EDF 6432 or EDF 6481 or C.I. A detailed examination of federal legislation, associations, organizations, people, events, and other key factors that define the history of career education in the U.S.

ED - Department of Child, Family and Community Sciences

ECW 6105. Vocational Program Planning, Development, and Evaluation
2-4(2-4,0) PR: Basic Teacher Certificate or C.I. Achievement of selected teacher competencies related to program objectives, courses of study, long-range plans, and techniques for evaluating vocational program effectiveness.
Even Fall
ED - Department of Child, Family and Community Sciences

ECW 6205. Administration in Vocational Education
3(3,0) PR: Basic Teacher Certificate or C.I. Administrative responsibilities in a local program of vocational education that includes two or more fields of occupational education.

ED - Department of Child, Family and Community Sciences

ECW 6206. Supervision in Vocational Education
3(3,0) PR: Basic Teacher Certificate or C.I. Supervisory techniques for planning and implementing improvement of staff, curriculum, and personal relations in vocational education.

ED - Department of Child, Family and Community Sciences

ECW 6666. Issues in Career Education
3(3,0) PR: EDF 6432 or EDF 6481 or C.I. An examination of current issues in career education including changing work force demands and implications for secondary and postsecondary career education.

ED - Department of Child, Family and Community Sciences

ECW 6695. School/Community Relations for Vocational Education
2-4(2-4,0) PR: Basic Teacher Certificate or C.I. Achievement of proficiency in the use of media techniques to promote the vocational program. Development and maintenance of productive relationships between school and community groups.

ED - Department of Child, Family and Community Sciences

EDA 6061. Organization and Administration of Schools
3(3,0) PR: Basic Teacher Certificate or C.I. Introduction to and overview of educational administration including governance, finance communications and information management, personnel evaluation.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDA 6232. Legal Aspects of School Operation
3(3,0) PR: Basic Teacher Certificate or C.I. Study of state and federal laws affecting the operation of public schools emphasizing individual rights and responsibilities of students, faculty, and administrators.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDA 6240. Educational Financial Affairs
3(3,0) PR: Basic Teacher Certificate or C.I. Theoretical and practical approaches to managing school business affairs at central office and individual school levels.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDA 6260. Educational Systems Planning and Management
3(3,0) PR: Basic Teacher Certificate or C.I. Application of current educational management and behavioral theory for systems approaches in schools and educational facilities.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDA 6300. Community School Administration
3(3,0) PR: C.I. The relationships between the school and the community with special emphasis on community needs and the development of a total community school program.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDA 6423. Data-Based Decision Making for School Educational Leaders
3(3,0) Graduate standing or C.I. Purpose is to understand and use concepts from research, measurement, and assessment to make informed and reasoned decisions.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDA 6502. Organization and Administration of Instructional Programs
3(3,0) PR: Basic Teacher Certificate or C.I. Study of school organization, administration, and management with emphasis toward organizational theory, leadership, evaluation, and change and improvement strategies.
Occasional
ED - School of Teaching, Learning, and Leadership

EDA 6931. Contemporary Issues in Educational Leadership
3(3,0) A capstone course intended to stimulate inspection, analysis, and dialogue regarding contemporary issues and tensions facing educational leaders and educational systems.
Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDA 6939. Seminar in Educational Administration
3(3,0) PR: C.I. Discussion of problems in school administration, patterns of curriculum organization, and research projects. May be used in the degree program a maximum of 4 times.
Occasional
ED - School of Teaching, Learning, and Leadership

EDA 6946. Internship
VAR(1-6) PR: C.I. Normally, the Educational Leadership internship is completed during the latter part of the degree program. Application must be made in semester prior to internship through the student's adviser. May be used in the degree program a maximum of 2 times.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

EDA 7101. Organizational Theory in Education
3(3,0) PR: Advanced graduate status or C.I. Overview of sociological and behavioral theories that are applicable to administration of various educational organizations.
Occasional
ED - School of Teaching, Learning, and Leadership

EDA 7192. Educational Leadership
3(3,0) PR: Doctoral standing or C.I. An analysis of the interactive process and functioning of groups; development of skills essential for effective educational leadership; and the change process.
Occasional
ED - School of Teaching, Learning, and Leadership

EDA 7193. Instructional Leadership
3(3,0) PR: Acceptance into the EdD PK-12 track in Educational Leadership. Study and analysis of research on leadership resulting in improved student achievement at the local, state, and national levels is the focus of this course.
Spring
ED - School of Teaching, Learning, and Leadership

EDA 7195. Politics, Governance, and Financing of Educational Organizations
3(3,0) PR: Doctoral standing or C.I. The study of policy development as a political process; governance issues; and financial issues in education.
Occasional
ED - School of Teaching, Learning, and Leadership

EDA 7196. Leadership in a Learning Organization
3(3,0) PR: Admission to the Education Ed.D. program. This course emphasizes contemporary leadership theory as it applies to a learning organization; i.e., human resources, district department leadership, military, higher education or business.
Occasional
ED - School of Teaching, Learning, and Leadership

EDA 7205. Planning, Research, and Evaluation Systems in Educational Administration
3(3,0) PR: Doctoral standing or C.I. The study of research and evaluation methodologies, system theory, and planning and design strategies in educational administration.
Occasional
ED - School of Teaching, Learning, and Leadership

EDA 7215. Community Outreach for Educational Leaders
3(3,0) PR: Acceptance into the EdD PK-12 track in Educational Leadership. The course focus will be on developing understandings of the essential relationships between schools and community organizations and the community organizations with themselves.
Fall
ED - School of Teaching, Learning, and Leadership

EDA 7224. Human Resource Development in Educational Organizations
3(3,0) PR: Acceptance into the EdD PK-12 track in Educational Leadership. The purpose of this course is to provide understanding of the functions of recruiting, selecting, placing, evaluating, and compensating people.
Fall
ED - School of Teaching, Learning, and Leadership

EDA 7225. Advanced Legal Studies in Education
3(3,0) PR: Acceptance into the EdD PK-12 track in Educational Leadership. In-depth study of current legal issues confronting educational leaders and their private sector counterparts.
Spring
ED - School of Teaching, Learning, and Leadership

EDA 7274. Learning and Accountability
3(3,0) PR: Acceptance into the EdD PK-12 track in Educational Leadership. Study of analytical applications at the school building or district level for instructional improvement.
Fall
ED - School of Teaching, Learning, and Leadership

EDA 7333. Dynamics of Children, Families, & Organizations: Implications for Educational
3(3,0) PR: Acceptance into the EdD PK-12 track in Educational Leadership. This course will provide an understanding of diversity in contemporary families, theoretical perspectives, and services, as well as creating safe schools and/or organizations.
Summer
ED - School of Teaching, Learning, and Leadership

EDA 7943. Field Project in Educational Leadership
3-6(3-6,0) PR: Admission to doctoral candidacy. Field experience and projects for advanced graduate students. Participation in school plant surveys, accreditation visitation, curriculum studies, administrative analysis, and field research. May be used in the degree program a maximum of 5 times.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDA 7987. Dissertation in Practice
1-6(1-6,0) PR: Admission to the EdD in Educational Leadership--Executive Track/completion of EdD coursework. The dissertation in practice is the capstone experience during which doctoral students conduct scholarly research on a complex problem of practice in an education organization.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDE 6933. Introductory Seminar in Elementary Education
1(1,0) PR: Admission to graduate program or C.I. Overview of the MEd and MA in Elementary Education programs' policies and expectations, and exploration of the teaching profession (professional organizations, accomplished practices, publications, issues and terminology).
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDE 6935. Capstone Seminar in Elementary Education
2(2,0) PR: EDE 6933 or C.I. As a culminating experience, this seminar provides students with the opportunity to synthesize what they have learned throughout their MEd or MA in Elementary Education program.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDF 5607. Language, Culture and Pedagogy: Impact and Implications
3(3,0) C.I. Explores in-depth issues surrounding learning needs of students from linguistically and culturally diverse populations. Research on language, culture and pedagogy will be highlighted.
Occasional
ED - School of Teaching, Learning, and Leadership

EDF 6141. Human Intelligence
3(3,0) PR: Graduate standing and a course in learning. An examination of theory and research on human intelligence and its relation to learning and cognitive performance with emphasis on implications for educational and workplace settings.
Occasional
ED - School of Teaching, Learning, and Leadership

EDF 6155. Lifespan Human Development and Learning
3(3,0) Research in childhood, adolescent, and adult development relevant to contemporary American education. Emphasis on application of theory to educational practice.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDF 6206. Challenges of Classroom Diversity
3(3,0) PR: Graduate standing, EDF 6886 or C.I. An examination of factors which shape the curriculum in diverse classrooms with specific attention to learning, assessment and best practices appropriate for minority students.
Occasional
ED - School of Teaching, Learning, and Leadership

EDF 6216. Motivation in Learning and Performance
3(3,0) PR: Graduate standing. An examination of theory and research in learning and performance with an emphasis on practical applications for educational and work place settings.
Occasional
ED - School of Teaching, Learning, and Leadership

EDF 6233. Introduction to Action Research and Analysis of Classroom Practice
3(3,0) PR: EDG 6935, EDG 6223, and EDF 6472. Analyses of teaching and curriculum practices to inform design of data-driven assessment that provides evidence of student learning and progress.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDF 6237. Principles of Learning and Introduction to Classroom Assessment
3(3,0) PR: Graduate standing. Students will examine prominent developmental and learning theories in depth and their implications for instruction and assessment. Key issues in educational psychology will be explored.

ED - School of Teaching, Learning, and Leadership

EDF 6259. Learning Theories Applied to Leadership in Teaching Practice
3(3,0) PR: Graduate standing or C.I. Examination and application of theories of learning, leadership, and best practice in teaching that result in evidence of student progress.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDF 6401. Statistics for Educational Data
3(3,0) PR: EDF 6481 or C.I. Design of educational evaluation; analysis of data, descriptive and inferential statistics, interpretation of results.
Fall,Spring,Summer
ED - Department of Educational and Human Sciences

EDF 6432. Measurement and Evaluation in Education
3(3,0) PR: Graduate standing. Concepts of measurement and evaluation, classroom test construction, creation and use of derived scores, selection and use of published measurement instruments, current issues.
Fall,Spring,Summer
ED - Department of Educational and Human Sciences

EDF 6447. Development and Validation of Educational Tests and Measures
3(3,0) EDF 6401, EDF 6432. Criterion and norm-referenced test development for educational agencies: specifications, item development and trial, scaling, passing scores, and test norms.

ED - Department of Educational and Human Sciences

EDF 6464. Mixed Methods for Evaluation in Educational Settings
3(3,0) PR: EDF 6401 and EDF 6481 or C.I. This service learning course will examine component and integrated mixed method designs toward developing a proposal for a program evaluation for a local nonprofit organization.

ED - Department of Educational and Human Sciences

EDF 6472. Data-Driven Decision-Making for Instruction
3(3,0) EDG 6935 and EDG 6223 or admission to K-8 Math and Science MEd. Understand how to design a research study, understand basic measurement principles, collect/analyze data, interpret results, report findings, apply research-to-practice in applied settings.
Fall,Spring
ED - Department of Educational and Human Sciences

EDF 6481. Fundamentals of Graduate Research in Education
3(3,0) PR: Graduate standing. Review and critique of research literature, use of library resources for educational research, and introduction to the concepts of research design and data analysis.
Fall,Spring,Summer
ED - Department of Educational and Human Sciences

EDF 6486. Research Design in Education
3(3,0) EDF 7403 or C.I. An examination of methodological techniques for specific educational problems. Intended for students in the process of designing independent research studies.

ED - Department of Educational and Human Sciences

EDF 6496. Teaching and Learning in Urban Settings
3(3,0) PR: Graduate standing. Analysis and discussion of instructional and assessment methods that seek to improve the quality of teaching and learning in urban schools.
Odd Fall,Even Spring
ED - School of Teaching, Learning, and Leadership

EDF 6517. Perspectives on Education
3(3,0) PR: Graduate standing. A critical analysis of the conceptual and operative educational systems developed in the United States.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDF 6635. Capstone: Action Research in Teacher Leadership
3(3,0) PR: EDF 6472 and EDF 6233. The Capstone, the final course in the program, is an action research study. The research study focuses on contemporary research in teacher leadership.
Spring
ED - School of Teaching, Learning, and Leadership

EDF 6688. Public Policy and Urban Education
3(3,0) PR: Graduate standing. Critical analysis of public policy formation, implementation, and evaluation with regard to their impact on urban schools and communities.
Even Fall,Odd Spring
ED - School of Teaching, Learning, and Leadership

EDF 6725. Critical Issues in the Study of High Needs Populations
3(3,0) Graduate standing or C.I. This course explores issues of social, political, and economic conditions and their impacts on schools and communities serving diverse learners in high needs settings and their families.
Summer
ED - School of Teaching, Learning, and Leadership

EDF 6727. Critical Analysis of Social, Ethical, Legal, and Safety Issues Related to Educ
3(3,0) PR: Graduate standing. Analysis of critical issues in education including social, ethical, legal, and safety concerns which impact the quality of education.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

EDF 6809. Introduction to Comparative and International Education
3(3,0) PR: Graduate standing. Surveys the salient issues, perspectives and paradigms of comparative and international education, while introducing students to cross-national comparative research design.
Occasional
ED - School of Teaching, Learning, and Leadership

EDF 6855. Equitable Educational Opportunity & Life Chances: A Cross-National Analysis
3(3,0) PR: Graduate standing. Analysis of how gender, class, race, ethnicity, and language affect the quality and outputs of schooling, with a focus on multinational organizations and NGO's.
Summer
ED - School of Teaching, Learning, and Leadership

EDF 6884. Education as A Cultural Process
3(3,0) PR: Graduate standing, EDF 6886, or C.I. An analysis of the theoretical underpinnings of multicultural education with special emphasis on the cultural context of American education for minority groups.
Occasional
ED - School of Teaching, Learning, and Leadership

EDF 6886. Multicultural Education
3(3,0) A survey of multicultural education; analysis of the relationship between cultural transmission, cultural pluralism, and the learning process within American schools.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDF 7403. Quantitative Foundations of Educational Research
3(3,0) PR: EDF 6401 or C.I. Examination of appropriate methods in applied educational contexts. Consideration of analysis strategies for educational data, emphasis on identification and interpretation of findings.
Fall,Spring,Summer
ED - Department of Educational and Human Sciences

EDF 7405. Quantitative Methods II
3(3,0) PR: EDF 7403 and EDF 7463 or C.I. Correlation, regression, path analysis, and structural equation modeling in educational studies. Use of path analysis and structural equation modeling to test theory.
Fall
ED - Department of Educational and Human Sciences

EDF 7406. Multivariate Statistics in Education
3(3,0) PR: EDF 7403 and EDF 7463 or C.I. Statistical methods that simultaneously analyze multiple measurements on an individual or object under investigation.
Spring
ED - Department of Educational and Human Sciences

EDF 7407. Research in Educational Leadership 2
3(3,0) PR: EDF 7471 and EDF 6481. Methods applied to statistical problems and resolution of selected problems appropriate for statistical applications is the focus of the course.
Spring
ED - Department of Educational and Human Sciences

EDF 7408. Research in Educational Leadership 3
3(3,0) PR: EDF 7407 and EDF 6481. Research 3 continues the development of respect for the scientific spirit of inquiry and to build upon the problem-solving and research strategies studied in Research 1 and Research 2. The course is intended to enhance students' comfort and confidence with research and statistical tools that will enhance their professional effectiveness.
Spring
ED - Department of Educational and Human Sciences

EDF 7410. Application of Nonparametric and Categorical Data Analysis in Education
3(3,0) PR: EDF 7403 or comparable doctoral level statistics course. Application of nonparametric and categorical data analysis procedures to education. Topics: nonparametrics for single samples, paired samples, independent samples, logistic regression, contingency tables, and logit models.

ED - Department of Educational and Human Sciences

EDF 7415. Latent Variable Modeling In Education
3(3,0) PR: EDF 7403 or its equivalent at the doctoral level. This course introduces students to the propriety, fit, parsimony, interpretation and power analysis of latent variable measurement and causal models.

ED - Department of Educational and Human Sciences

EDF 7427. Psychometrics
3(3,0) PR: EDF 7403, C.I. Overview of classical test theory with an introduction to item response theory and generalizability theory. Techniques for evaluating validity and reliability will be applied through statistical analyses.
Odd Fall
ED - Department of Educational and Human Sciences

EDF 7457. Data, Assessment, & Accountability
3(3,0) PR: Admission to the Education Ed.D. program. Differentiates data from research, emphasizes working with data sets, and guides data use to make ethical decisions and to understand and measure outcomes.
Fall
ED - School of Teaching, Learning, and Leadership

EDF 7463. Analysis of Survey, Record, and Other Qualitative Data
3(3,0) PR: EDF 6401 and EDF 7403 or C.I. Examination of the major elements involved in planning, conducting, and reporting survey research; emphasis is on the design, instrumentation, data analysis and data; interpretation for survey research.
Fall,Spring,Summer
ED - Department of Educational and Human Sciences

EDF 7468. Evaluation of Complex Problems of Practice
3(3,0) PR: Admission to the Education Ed.D. program. Emphasizes evaluation of complex problems of practice, review of effective evaluation, and development of knowledge and skills in program evaluation.
Occasional
ED - School of Teaching, Learning, and Leadership

EDF 7471. Research in Educational Leadership I
3(3,0) PR: EDF 6481. Study, analysis, and understanding of applied educational research methods are the focus of the course.
Fall
ED - Department of Educational and Human Sciences

EDF 7473. Ethnography in Educational Settings
3(3,0) PR: Admission to Doctoral program. Exploration and integration of theories and practices of naturalistic, field-based studies of educational settings, proceeding from conceptualization, through data collection and analysis, to results presentation.
Occasional
ED - Department of Educational and Human Sciences

EDF 7474. Multilevel Data Analysis In Education
3(3,0) PR: EDF 7403 or comparable doctoral level statistics course. The course will consider the statistical foundations of multilevel linear models, also known as hierarchical linear models (HLMs), and focuses on their application in education and behavioral sciences.

ED - Department of Educational and Human Sciences

EDF 7475. Qualitative Research in Education
3(3,0) PR: EDF 7463 or C.I. Introduction to the philosophical and conceptual basis of qualitative research methods, strategies for gathering, analyzing, and interpreting qualitative data, emerging issues.
Fall
ED - Department of Educational and Human Sciences

EDF 7476. Advanced Research Methods
3(3,0) PR: EDF 7403, EDF 7463, C.I. Review/expand knowledge of empirical research in education. Includes systematic literature review, convert conceptual questions to concrete, and multiple analytic methods.
Fall
ED - Department of Educational and Human Sciences

EDF 7478. Analysis of Data for Complex Problems of Practice
3(3,0) PR: Admission to the Education Ed.D. program. Qualitative and quantitative methods appropriate for the analysis of data are introduced and used for solving complex problems of practice.
Occasional
ED - School of Teaching, Learning, and Leadership

EDF 7479. Applications of Technology in Qualitative Resrch: Data, Organztn, & Analysis
3(3,0) EDF 7475 or C.I. Course includes use of video and audio to collect data, two leading data analysis software packages, and requires students demonstrate competencies in lab-based assignments.

ED - Department of Educational and Human Sciences

EDF 7488. Monte Carlo Simulation Research in Education
3(3,0) EDF 7403 or C.I. Students are taught how to generate univariate and multivariate data under various parametric conditions for the purpose of exploring the limits of analytical procedures.

ED - Department of Educational and Human Sciences

EDF 7489. Quantitative Research Synthesis
3(3,0) PR: Equivalent to EDF 6481 and EDF 7403. This course addresses the problem of the accumulation of evidence in scientific research through the use of quantitative methods for research synthesis and meta-analysis.
Spring
ED - Department of Educational and Human Sciences

EDF 7494. Identifying Complex Problems of Practice
3(3,0) PR: Admission to the Education Ed.D. program. Emphasizes orientation toward identifying complex problems of practice through review of sound research methodology and development of knowledge and skills in program evaluation.
Occasional
ED - School of Teaching, Learning, and Leadership

EDF 7916. Analysis and Synthesis of Educational Literature
3(3,0) PR: Doctoral standing or C.I. Students will learn to find, select, critically analyze, and synthesize educational research and scholarship.
Even Spring
ED - School of Teaching, Learning, and Leadership

EDF 7947. Internship in Methodology, Measurement, and Analysis
3(3,0) PR: EDF 7403, EDF 7463, & C.I. This course provides practical application of research skills developed through course work. The student will complete/participate in an approved research project.
Occasional
ED - Department of Educational and Human Sciences

EDG 5356. Instructional Coaching
3(3,0) PR: Graduate standing or C.I. This course will prepare educators to become instructional coaches, developing skills and methods to impact student achievement by influencing teachers' instructional practices.
Summer
ED - School of Teaching, Learning, and Leadership

EDG 5745. Teaching the Non-English Student
3(3,0) C.I. Bilingual and non-linguistic instruction in curriculum areas in English as a second language.

ED - School of Teaching, Learning, and Leadership

EDG 5941. Clinical Practice
2-8(0,11) Admission to STEP II, III or IV. Clinical Internship in an appropriate educational setting under the direction of a university supervisor or peer teacher.

ED - School of Teaching, Learning, and Leadership

EDG 6042. Character Education in the Schools
3(3,0) C.I. An examination of issues in the field of character education.

ED - School of Teaching, Learning, and Leadership

EDG 6047. Contemporary Issues in Education
3(3,0) An analysis of current trends in education and their impact on educational programs.

ED - School of Teaching, Learning, and Leadership

EDG 6223. Curriculum Theory, Organization, and Policy
3(3,0) PR: Graduate standing or C.I. An exploration and examination of foundations and leadership decision-making in curriculum design, development, organization, and policy.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDG 6224. Curriculum Policy Analysis
3(3,0) PR: Graduate standing. Overview and synthesis of major components of policy involving curriculum. Exploration of the relationship between curriculum policy and curriculum evaluation as parts of analysis.
Odd Spring
ED - School of Teaching, Learning, and Leadership

EDG 6285. Evaluation of School Programs
3(3,0) PR: Graduate standing. History of program evaluation, systems approaches to program evaluation, concepts of stakeholder and qualitative approaches to program evaluation, the role of evaluator and administrator.
Occasional
ED - Department of Educational and Human Sciences

EDG 6329. Quality Teaching Practices
3(3,0) PR: Valid teaching certificate. Focus is on skills and competencies of quality reflective educators. Teaching episodes are videotaped and analyzed against national standards of teaching quality.
Occasional
ED - School of Teaching, Learning, and Leadership

EDG 6337. Techniques of Game Use in Education
3(3,0) Analysis, development, and use of educational games as an approach to classroom teaching.

ED - School of Teaching, Learning, and Leadership

EDG 6415. Principles of Instruction and Classroom Management
3(3,0) PR: Graduate standing or consent of department chair. Students are exposed to various methods of delivering instruction, as well as organizational and management skills. Students microteach and view lessons to develop reflective practices.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

EDG 6636. Impact of Social Contexts on Teaching and Learning
3(3,0) EDF 6725 Provides analysis and discussion of instructional and assessment methods that seek to improve the quality of teaching and learning of students/community members in high needs settings. Further, the course is designed to assist students in applying the content of the course to an informed educational practice.
Spring
ED - School of Teaching, Learning, and Leadership

EDG 6775. Exploring Global Educational Issues in International Contexts
3(3,0) PR: Graduate standing. Guided field experience in global issues challenging the educational community worldwide, from both academic and experiential perspectives. In conjunction with international field experience/study abroad. May be used in the degree program a maximum of 2 times only when course content is different.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDG 6935. Introductory Seminar in Teacher Leadership
3(3,0) PR: Graduate standing and admitted to Teacher Leadership MED. Examine current leadership trends in educational contexts and critically analyze the role of collaborative leadership in school improvement.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDG 6940. Graduate Internship
1-8(0,1-8) PR: Approval of student internship office. Internship in an appropriate educational setting under the direction of a qualified field supervisor and/or a university supervisor. May be repeated for credit.

ED - School of Teaching, Learning, and Leadership

EDG 7221. Advanced Curriculum Theory
3(3,0) PR: EDG 6223 or C.I. An analysis of the research base which supports the various dimensions of the curriculum field.
Occasional
ED - School of Teaching, Learning, and Leadership

EDG 7325. Models of Teaching and Instructional Theory
3(3,0) PR: EDG 6223; EDF 7232 or C.I. Examination of models of teaching. Focus on the roles of the teacher, applicable contexts and learning goals; historical, philosophical, learning, and research basis.
Even Fall,Even Spring
ED - School of Teaching, Learning, and Leadership

EDG 7947. Laboratory of Practice
3(3,0) PR: Admission to the Education Ed.D. program. Guided internship: student placement in a leadership setting in a school, social service agency, private or community setting that is involved with learning or development. May be used in the degree program a maximum of 2 times.
Occasional
ED - School of Teaching, Learning, and Leadership

EDG 7985. Proposing and Implementing Data-Driven Decisions
3(3,0) PR: Admission to the Education Ed.D. program. Prepares the student for the capstone experience through the development of the capstone proposal and proposal defense.
Occasional
ED - School of Teaching, Learning, and Leadership

EDG 7987. Dissertation in Practice
VAR(1-99) PR: Admission to the Education Ed.D. program/completion of Ed.D. coursework. Guides the student through the completion of the capstone project experience. May be used in the degree program a maximum of 7 times.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDH 6044. Career Exploration in Higher Education
3(3,0) PR: C.I. Explore the practical application in career decision-making in Higher Education through personal and professional analysis.
Summer
ED - Department of Child, Family and Community Sciences

EDH 6045. First Year College Experience
3(3,0) PR: Graduate standing or C.I. Focus on critical first year college experience through existing research and practice. Students design a first year experience program within an institution of their choice.
Odd Fall
ED - Department of Child, Family and Community Sciences

EDH 6046. Diversity in Higher Education
3(3,0) PR: Graduate standing or C.I. Introduction to theory, research, and practice of historical and contemporary diversity issues in American higher education: race, class, gender, and sexuality as they relate to institutional issues, administrators, faculty, and students.
Odd Fall
ED - Department of Child, Family and Community Sciences

EDH 6047. Theories of College Student Development
3(3,0) PR: Graduate standing or C.I. Study of the composition of student populations in American colleges and universities and the theories and factors within the learning environment which support student development.
Odd Fall
ED - Department of Child, Family and Community Sciences

EDH 6053. The Community College in America
3(3,0) PR: C.I. Study of the history, philosophy, goals, and mission of the community college. Functions, policies, practices to satisfy local needs.
Occasional
ED - Department of Child, Family and Community Sciences

EDH 6054. Issues in Postsecondary Education
3(3,0) PR: Graduate standing or C.I. The course focuses on organization, management and leadership in postsecondary education, the non-compulsive educational level following completion of high school (community colleges, virtual universities).
Odd Summer
ED - Department of Child, Family and Community Sciences

EDH 6065. History and Philosophy of Higher Education
3(3,0) PR: C.I. Early European and American universities, both state and private. Also considers small and private junior and senior colleges.
Fall
ED - Department of Child, Family and Community Sciences

EDH 6067. International Higher Education
3(3,0) PR: Graduate standing or C.I. Examines the variegated nature and activities of international higher education from the perspective of both theory and practice.
Odd Fall
ED - Department of Child, Family and Community Sciences

EDH 6081. Contemporary Problems in Community Colleges
3(3,0) PR: EDH 6204 or C.I. Analysis of the critical issues facing community colleges today and in the near future.
Occasional
ED - Department of Child, Family and Community Sciences

EDH 6105. Retention Strategies in Colleges and Universities
3(3,0) PR: Graduate standing. Analyzing educational and political ramifications of college attrition, with focus on variation in retention practices and strategies.
Even Summer
ED - Department of Child, Family and Community Sciences

EDH 6204. Community College Organization, Administration, and Supervision
3(3,0) PR: C.I. An analysis of the organizational structure and administrative functions of the community college as they relate to instruction and curriculum.
Fall
ED - Department of Child, Family and Community Sciences

EDH 6215. Community College Curriculum
3(3,0) PR: C.I. Examination of the background, development, function, and goals of the curriculum of the community college.
Spring
ED - Department of Child, Family and Community Sciences

EDH 6305. Teaching and Learning in the Community College
3(3,0) PR: EDF 7232. Focuses on teaching effectiveness in the community college.
Fall
ED - Department of Child, Family and Community Sciences

EDH 6407. Ethical and Legal Issues in Student Personnel
3(3,0) PR: C.I. Studies of ethical and legal issues in College Student Personnel.
Summer
ED - Department of Child, Family and Community Sciences

EDH 6505. Finance in Higher Education
3(3,0) PR: Completion of Phase II of Education Professional Preparation or C.I. Fundamental considerations in the finance of institutions of higher education.
Spring
ED - Department of Child, Family and Community Sciences

EDH 6632. American Professoriate and College Presidency
3(3,0) PR: Graduate standing or C.I. Similarities/differences among American professoriate and college presidency in various institutions and academic disciplines. Topics relevant to faculty careers, higher education administration, student affairs, and public policy.
Odd Spring
ED - Department of Child, Family and Community Sciences

EDH 6634. Student Personnel Services in Higher Education
3(3,0) PR: C.I. A basic introduction to student personnel services which covers philosophy, history, functions, theory, and issues.
Fall
ED - Department of Child, Family and Community Sciences

EDH 6635. Organization and Administration of Higher Education
3(3,0) PR: Graduate standing or C.I. Major trends and challenges of higher education organization and administration; provides synthesis and integration of historical and contemporary issues of academic governance and leadership from theoretical and practical perspectives.
Even Fall
ED - Department of Child, Family and Community Sciences

EDH 6655. Athletics in the American University
3(3,0) Graduate standing or C.I. An examination of the historical and contemporary role of athletics in the American University with explicit focus on the student athlete and student support services of athletes.
Odd Fall
ED - Department of Child, Family and Community Sciences

EDH 6656. Academic Success and the Student Athlete
3(3,0) Graduate standing or C.I. This course will examine the factors related to academic success including issues related to the organization and structure of athletic support services.
Odd Summer
ED - Department of Child, Family and Community Sciences

EDH 6935. Capstone Seminar in College Student Personnel
3(3,0) PR: C.I. A study of current issues in college student personnel with primary emphasis on the role of professionals and the challenges they may encounter.
Fall
ED - Department of Child, Family and Community Sciences

EDH 6946. Internship
VAR Graded S/U. May be repeated for credit.

ED - Department of Educational and Human Sciences

EDH 6947. Practicum in Student Personnel
3(3,0) EDH 6634. Provides supervised learning experience and opportunities for assessments and evaluation. Graded S/U.
Occasional
ED - Department of Educational and Human Sciences

EDH 7040. Research on the College Student
3(3,0) PR: Doctoral standing. Introduction to theoretical concepts and research findings related to student characteristics, college environments, choice, student development, attrition, persistence, cognitive and affective development, and general outcomes.
Even Spring
ED - Department of Child, Family and Community Sciences

EDH 7066. Higher Education: Philosophical/Historical Perspectives
3(3,0) Doctoral standing or C.I. This course examines basic philosophical positions and history of American higher education, historical research methods, and related applications: developing educational philosophy and historical research skills.
Fall
ED - Department of Child, Family and Community Sciences

EDH 7207. Curriculum, Instruction, & Distance Learning in Higher Education
3(3,0) Doctoral standing or C.I. Curriculum, Instruction, & Distance Learning in Higher Education examines curriculum and instructional methodologies and ways that distant learning can be used to improve student learning outcomes.
Summer
ED - Department of Child, Family and Community Sciences

EDH 7208. International Perspectives of Higher Education
3(3,0) Doctoral standing or C.I. To increase understanding of global perspectives, this course explores worldwide tertiary education systems, related collaborations, issues and trends, and the impact of politics, economies, and cultures.
Summer
ED - Department of Child, Family and Community Sciences

EDH 7366. Assessment Practices in Higher Education
3(3,0) PR: Doctoral standing or C.I. Prepares higher education leaders with necessary knowledge, understanding, and skills to create and conduct effective assessment programs and activities.
Fall
ED - Department of Child, Family and Community Sciences

EDH 7401. Higher Education and Public Policy
3(3,0) PR: Doctoral standing. Course examines development and analysis of US Higher Education policy issues, socio-political contexts at play in policy processes, and how competing policy agendas are negotiated.
Odd Summer
ED - Department of Child, Family and Community Sciences

EDH 7405. Legal Issues in Higher Education
3(3,0) PR: Doctoral standing or C.I. Addresses legal framework of public and private institutions of higher education with emphasis on case law related to organization, governance, faculty, students, curriculum, and environment. Exploration of key laws and legal concepts applicable to American institutions of higher education, including how to weigh and balance competing rights and responsibilities of institutions, faculty, staff, and students.
Even Fall
ED - Department of Child, Family and Community Sciences

EDH 7409. Legal Issues in Higher Education II
3(3,0) PR: EDH 7405. Advance legal aspects in public and private institutions of higher education including case law implications of collective bargaining and relationships between colleges and students.
Odd Fall,Odd Summer
ED - Department of Child, Family and Community Sciences

EDH 7508. Finance in Higher Education
3(3,0) Doctoral standing or C.I. This course is designed to provide students with fundamental considerations, research, theory and practice regarding the funding of higher education institutions.
Spring
ED - Department of Child, Family and Community Sciences

EDH 7631. Managing change, conflict, and stability in Higher Education
3(3,0) PR: Doctoral standing or C.I. Course introduces and defines nature of change, and reviews theories of transformation in higher education; investigates various higher education change models and practical change strategies.
Odd Fall
ED - Department of Child, Family and Community Sciences

EDH 7636. Organizational Theory & Practices in Higher Education
3(3,0) Doctoral standing or C.I. Explores theories and models of organizations and their applicability to colleges and universities and the work done in them.
Fall
ED - Department of Child, Family and Community Sciences

EDH 7638. Advanced Seminar in Higher Education
3(3,0) PR: Doctoral standing or C.I. Course explores "the enduring enigmas" in Higher Education, those long-contested controversies forging the patterns and traditions of our colleges and universities.
Even Spring
ED - Department of Child, Family and Community Sciences

EDH 7665. Higher Education Leadership
3(3,0) Doctoral standing or C.I. To increase understanding of research, theories, models and issues related to higher education leadership including administration, college presidency, and faculty roles.
Fall
ED - Department of Child, Family and Community Sciences

EDH 7934. Higher Ed Literature, Research, & Professional Writing Seminar
3(3,0) Graduate standing or C.I. Provides students with research strategies and writing skills for dissertation preparation, journal writing, publication and reviewing, and conference presentation skills. Graded S/U. May be used in the degree program a maximum of 2 times only when course content is different.

ED - Department of Educational and Human Sciences

EDH 7980. Dissertation
VAR(VAR,VAR) PR: Doctoral standing. Dissertation credits course for Higher Ed doctoral students. Graded S/U. May be repeated for credit.
Even Fall,Spring,Summer
ED - Department of Child, Family and Community Sciences

EDM 6235. Contemporary Issues of MIddle Level Education
3(3,0) Graduate standing or C.I. Critical analysis of the contemporary educational issues that directly impact middle level schools.
Occasional
ED - School of Teaching, Learning, and Leadership

EDM 6401. Principles of Middle Level Education
3(3,0) graduate standing. Development of a professional understanding of middle schools: rationale, organization, instructional strategies and characteristics of exemplary middle schools.
Occasional
ED - School of Teaching, Learning, and Leadership

EDP 6213. Seminar in Applied Learning and Instruction I
3(3,0) PR: Graduate standing or C.I. An overview of contemporary theories and research related to human learning and instruction with a focus on affective and motivational issues surrounding learning and instruction.
Fall
ED - School of Teaching, Learning, and Leadership

EDP 6217. Seminar in Applied Learning and Instruction II
3(3,0) PR: EDP 6213 or C.I. An overview of contemporary theories and research in human learning and instruction. Emphasis on cognition, critical thinking, problem-solving, individual differences, and assessment of learning outcomes.
Spring
ED - School of Teaching, Learning, and Leadership

EDP 6936. Capstone in Applied Learning & Instruction
1-6(1-6-0) PR: EDP 6213, EDP 6217, EDF 6216, or C.I. Students use critical thinking and written communication skills to integrate and apply material learned in courses in learning, instruction, and motivation. Graded S/U. Variable credit, 1-6. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDP 7517. Facilitating Learning, Development & Motivation
3(3,0) PR: Admission to the Education Ed.D. program. Emphasizes using theory and research in learning, development, and motivation to diagnose and solve learning and motivational problems in diverse educational environments.
Fall
ED - School of Teaching, Learning, and Leadership

EDS 5356. Mentoring and Clinical Supervision of Pre-professional Educators
3(2,1) PR: C.I. The practical application of coaching and mentoring practices that satisfy the standards of clinical supervision and assure attainment of the Florida Educator Accomplished Practices.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDS 6053. Trends in Educational Supervision
3(3,0) Basic supervision course or C.I. Examination and analysis of the trends, issues, and problems in educational supervision.

ED - School of Teaching, Learning, and Leadership

EDS 6100. Leadership
3(3,0) C.I. Analysis of the interactive process within and between groups, emphasizing the formation and functioning of groups; development of skills essential for effective leadership.

ED - School of Teaching, Learning, and Leadership

EDS 6123. Educational Supervisory Practices I
3(3,0) PR: Basic Teacher Certificate or C.I. Analysis of effective supervisory behavior as it relates to human relations/communication skills; leadership; motivation; curriculum development; community relations; and service to teaching.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDS 6130. Educational Supervisory Practices II
3(3,0) PR: Basic Teacher Certificate or C.I. Analysis of effective supervisory behavior as it relates to planning and change; observation and conferencing skills; staff and group development, problem solving; and decision making.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

EDS 6365. Education and National Development
3(3,0) PR: Graduate standing. This course explores current issues and relationships between education and national development by studying multinational institutions and nongovernmental organizations engaged in educational planning worldwide.
Fall
ED - Department of Child, Family and Community Sciences

EDS 7111. Administration and Supervision of Staff Development
3(2,1) Basic Teacher Certificate or C.I. Role and procedures for the supervisor or administrator in staff development. Assessment of staff development needs and delivery systems are stressed.

ED - Department of Educational and Human Sciences

EEC 5205. Programs and Trends in Early Childhood Education
3(3,0) PR: Regular Certificate or C.I. Philosophy, content, facilities, instructional materials, and activities appropriate for children ages 3 to 8 years; current research; issues and trends. Concurrent laboratory experiences.
Summer
ED - Department of Child, Family and Community Sciences

EEC 5745. Child Life: Psychosocial Care of Children in Health Settings
3(3,0) PR: EEC 3700 or C.I. Course teaches Child Life theory and practice to students wanting to work with children, youth, and their families in hospitals and pediatric health settings.
Odd Spring
ED - Department of Child, Family and Community Sciences

EEC 6216. Communicative Arts in Early Childhood Education
3(3,0) PR: Graduate standing or C.I. Study of young children's many forms of linguistic pictorial, and three-dimensional expression and communication.
Spring
ED - Department of Child, Family and Community Sciences

EEC 6269. Play Development, Intervention, and Assessment
3(3,0) Explores play development, facilitation, intervention, and assessment.
Even Summer
ED - Department of Child, Family and Community Sciences

EEC 6405. Home-School-Community Interaction in Early Childhood Education
3(3,0) PR: Graduate standing. Explores the knowledge and skills necessary to form partnerships with families and the community to enhance the care and education of young children.
Fall
ED - Department of Child, Family and Community Sciences

EEC 6406. Guiding and Facilitating Social Competence
3(3,0) Provides students with techniques to facilitate and guide the behavior and emotional growth of young children.
Spring
ED - Department of Child, Family and Community Sciences

EEC 6525. Early Childhood Program Administration
3(3,0) Graduate standing. Organizational and administrative theories as they relate to practice in selected early childhood services.
Occasional
ED - Department of Child, Family and Community Sciences

EEC 6606. Global Issues in Early Childhood
3(3,0) PR: Graduate standing or C.I. This course is designed to provide our students with global perspectives on early childhood development and engage our students in international research activities.
Fall
ED - Department of Child, Family and Community Sciences

EEC 6947. Practicum in Child, Family, and Community Sciences
6(1-6,0) PR: Graduate standing or C.I. Field-based placement in a social service agency, childcare center, hospital, or school, working with a mentor family liaison to develop skills/ knowledge with diverse families.
Fall,Spring,Summer
ED - Department of Child, Family and Community Sciences

EEC 7055. Advocacy, Public Policy, and Program Evaluation
3(3,0) PR: Admission to the program or C.I. Research-based practice as it relates to child advocacy and changes in public policy.
Spring
ED - Department of Child, Family and Community Sciences

EEC 7058. Theoretical Foundations of Early Childhood
3(3,0) PR: Admission to the program or C.I. Theoretical bases of early childhood, philosophy, and current research in early childhood.
Fall
ED - Department of Child, Family and Community Sciences

EEC 7409. Current Trends in Child, Family, and Community Sciences
3(3,0) PR: Admission to the program or C.I. This course examines emerging and current trends in the field of Child, Family, and Community Sciences.
Summer
ED - Department of Child, Family and Community Sciences

EEC 7673. Early Childhood: Professional Publishing and Grant Writing
3(3,0) PR: Admission to the program or C.I. This course examines the aspects of grant writing and writing of professional journals for the field of early childhood.
Fall
ED - Department of Child, Family and Community Sciences

EEC 7676. Critical Analysis of Early Childhood Research
3(3,0) PR: Admission to the program or C.I. This course examines research, theories, and trends in early childhood and how they influence perspectives related to young children.
Spring
ED - Department of Child, Family and Community Sciences

EEC 7945. Early Childhood: Internship in Teaching and Supervision
3(3,0) PR: Admission to the program or C.I. Examine and practice the various roles of an early childhood college professor focusing on undergraduate teaching and supervision. May be used in the degree program a maximum of 4 times.
Fall,Spring,Summer
ED - Department of Child, Family and Community Sciences

EEC 7948. Early Childhood: Internship in Research
3(3,0) PR: Admission to the program or C.I. Examine and practice the various roles of an early childhood college professor focusing on research. May be used in the degree program a maximum of 4 times.
Fall,Spring,Summer
ED - Department of Child, Family and Community Sciences

EEC 7980. Dissertation
VAR(VAR,VAR) Student must be in candidacy. Dissertation
Fall,Spring,Summer
ALL - All

EEE 5265. Biomedical Effects and Applications of Electromagnetic Energy
3(3,0) EEL 3470 or C.I. RF and microwave energy and their interaction with biological materials. Specific biomedical effects such as absorption, thermal therapy, hyperthermia, etc., will be discussed.
Even Spring
ECS - Department of Electrical and Computer Engineering

EEE 5272. Biomedical Sensors
3(3,0) PR: EEL 4750 or EEL 4832 or C.I. Study of engineering concepts behind the various biomedical sensors used to monitor a patient undergoing clinical therapy.
Occasional
ECS - Department of Electrical and Computer Engineering

EEE 5279. Advanced Bioelectronics Systems
3(3,0) EEE 4309C or C.I. Advanced bioelectronics systems and techniques that enable recent biophysical and biomedical research will be discussed.
Spring
ECS - Department of Electrical and Computer Engineering

EEE 5332C. Thin Film Technology
3(2,1) PR: EEE 3350 or equivalent. Presents the various thin film deposition techniques for the fabrication of microelectronic, semiconductor, and optical devices.
Occasional
ECS - Department of Electrical and Computer Engineering

EEE 5352C. Semiconductor Material and Device Characterization
3(2,3) PR: EEE 3350 or C.I. Semiconductor material characterization resistivity, mobility, doping carrier lifetime, device properties, threshold voltage, interface charge of MOS devices, optical and surface characterization of films.
Odd Fall
ECS - Department of Electrical and Computer Engineering

EEE 5353. Semiconductor Device Modeling and Simulation
3(3,0) PR: EEE 3307C. Large signal and small signal model development for semiconductor diodes, BJTs, and MOSFETs. Parameter extraction, numerical algorithm, and SPICE simulation are included.
Spring
ECS - Department of Electrical and Computer Engineering

EEE 5356C. Fabrication of Solid-State Devices
4(3,3) PR: EEE 3350. Fabrication of microelectronic devices, processing technology, ion implantation and diffusion, device design, and layout. Laboratory includes device processing technology.
Fall,Spring
ECS - Department of Electrical and Computer Engineering

EEE 5370. Operational Amplifiers
3(3,0) PR: EEE 4309C. Ideal and non-ideal Op-Amps. Linear applications. Active RC and switched-capacitor filters. Non-linear and other functional circuits. Frequency stability and compensation of Op-Amps.
Even Fall
ECS - Department of Electrical and Computer Engineering

EEE 5378. CMOS Analog and Digital Circuit Design
3(3,0) PR: EEE 4309C. Advanced principles and design techniques for CMOS ICs including most recent published results.
Fall
ECS - Department of Electrical and Computer Engineering

EEE 5390C. Full-Custom VLSI Design
3(2,3) EEE 3307C and EEE 3342C with a "C" (2.0) or better grade. Provide background in integrated devices, circuits, and digital subsystems needed for design and implementation of silicon logic chips.
Occasional
ECS - Department of Electrical and Computer Engineering

EEE 5513. Digital Signal Processing Applications
3(3,0) PR: EEL 4750. The design and practical consideration for implementing Digital Signal Processing Algorithms including Fast Fourier Transform techniques, and some useful applications.
Spring
ECS - Department of Electrical and Computer Engineering

EEE 5542. Random Processes I
3(3,0) PR: EEL 3552C and STA 3032. Elements of probability theory, random variables, and stochastic processes.
Fall,Spring
ECS - Department of Electrical and Computer Engineering

EEE 5555. Surface Acoustic Wave Devices and Systems
3(3,0) PR: EEL 3552C. Course discusses SAW technology which includes the physical phenomenon, transducer design and synthesis, filter design and performance parameters. Actual devices and communication systems are presented.
Occasional
ECS - Department of Electrical and Computer Engineering

EEE 5557. Introduction to Radar Systems
3(3,0) PR: EEL 3552C. Introduction to Pulse and CW Radar Systems. Chirp Radar Systems. Tracking Radar. Noise in Radar Systems.
Spring
ECS - Department of Electrical and Computer Engineering

EEE 6317. Power Semiconductor Devices and Integrated Circuits
3(3,0) PR: EEE 3350 or equivalent or C.I. Fundamental understanding of modern power semiconductor devices and integrated circuits (ICs) in relation to their applications in power electronics systems.
Spring
ECS - Department of Electrical and Computer Engineering

EEE 6326C. MEMS Fabrication Laboratory
3(1,2) PR: C.I. Silicon Nitride and Poly-silicon Depositions, Photolithography, Dry and Wet etching processes, Metal depositions and etching, MEMS device design and fabrication.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EEE 6327. Design of Video Coding Systems
3(3,0) PR: EEL 4768C and EEL 4750. VLSI architectures and image/video coding algorithms, image/video coding standards, and architectural issues related with area/power/performance.
Spring
ECS - Department of Electrical and Computer Engineering

EEE 6338. Advanced Topics in Microelectronics
3(3,0) PR: C.I. Covers advanced topics in microelectronics such as semiconductor device physics, semiconductor device fabrication, and semiconductor device modeling.
Occasional
ECS - Department of Electrical and Computer Engineering

EEE 6347. Trustworthy Hardware
3(3,0) EEE 5390C or EEL 5704 or C.I. Introduce the concept of trustworthy hardware. Review scientific publications in the area of trustworthy hardware. Design, analyze, and evaluate trustworthy embedded systems.
Occasional
ECS - Department of Electrical and Computer Engineering

EEE 6358. Advanced Semiconductor Device I
3(3,0) PR: EEE 3350. First course in advanced semiconductor device physics and modeling. Main stream devices including junctions diale, bipolar transistor, and metal-oxide field-effect transistor.
Spring
ECS - Department of Electrical and Computer Engineering

EEE 6371. Advanced Electronics I
3(3,0) PR: EEE 5378 or EEE 5370. Models for integrated-circuit active devices. Analysis and design of IC amplifiers. Feedback amplifiers. Frequency response and stability. Compensation of amplifiers.
Even Spring
ECS - Department of Electrical and Computer Engineering

EEE 6372. Advanced Topics in Electronics
3(3,0) PR: EEE 6371 or C.I. Advanced and current topics in electronics such as power electronics and semiconductor integrated circuits.
Occasional
ECS - Department of Electrical and Computer Engineering

EEE 6406. Modern EDA Algorithms in VLSI
3(3,0) PR: EEL 4783. This course covers all of the most important aspects of modern Electronic Design Automation (EDA) software: logic synthesis, circuit placement, and routing algorithms. Students will not only learn theory but also gain hands-on experience by doing a software project.
Spring
ECS - Department of Electrical and Computer Engineering

EEE 6475. CMOS Analog and Digital Integrated Circuit Design
3(3,0) PR: EEE 4309C or C.I. The objective of this class is to teach the graduate students the principle and techniques of CMOS IC design for high performance, low power, and RF applications.
Fall
ECS - Department of Electrical and Computer Engineering

EEE 6504. Adaptive Digital Signal Processing
3(3,0) PR: EEE 5513 or C.I. Weiner filtering, Least Mean Square and Recursive Least Squares based algorithms, adaptive prediction and identification with applications such as echo cancellation, etc.
Spring
ECS - Department of Electrical and Computer Engineering

EEE 6505. Multidimensional Digital Processing
3(3,0) EEE 5513 or C.I. Multidimensional signals and systems. Two-dimensional transforms and filters. Image processing applications.
Occasional
ECS - Department of Electrical and Computer Engineering

EEE 6508. Advanced Topics in Digital Signal Processing
3(3,0) PR: C.I. Advanced and current topics in digital signal processing, such as neural network, spectral analysis, and speech processing.
Occasional
ECS - Department of Electrical and Computer Engineering

EEE 6527. Compressive Sensing
3(3,0) EEE 5542. This course offers a broad coverage of the emerging topic of compressive sensing. The focus of the course is on describing the ideas and techniques that have been developed in this field with emphasis on theoretical foundations, algorithm developments, and applications.
Fall
ECS - Department of Electrical and Computer Engineering

EEE 6543. Random Processes II
3(3,0) PR: EEE 5542. Stochastic processes. Mean-squared estimation. Queueing theory. Spectral estimation. Applications to communications and radar systems.
Occasional
ECS - Department of Electrical and Computer Engineering

EEE 6558. Advanced Radar Systems
3(3,0) EEE 5557. Advanced radar concepts: electromagnetic propagation and target scattering & fading; radar signal processing - target parameter estimation & information extraction, and radar system design.

ECS - Department of Electrical and Computer Engineering

EEE 6712. Modeling and Analysis of Networked Cyber-Physical Systems
3(3,0) Graduate standing and (EEL 4781 or EEL 4515C) or C.I. Analysis, modeling and design of networked cyber-physical systems such as intelligent transportation systems and industrial control networks; stochastic hybrid systems, continuous and discrete system modeling approaches; industry standards in transportation, smart grid, industrial control, and their use and implication in design of distributed systems.
Spring
ECS - Department of Electrical and Computer Engineering

EEE 6721. Evolvable Hardware
3(3,0) EEL 5722C or C.I. Evolvable digital and analog computing hardware, including intrinsic and extrinsic reconfigurable architectures, self-adapting circuits, and autonomous computing architectures.
Occasional
ECS - Department of Electrical Engineering and Computer Science

EEL 5173. Linear Systems Theory
3(3,0) PR: EEL 3657. Models and properties of linear systems, transformation, controllability and observability, control and observer designs, MFD, and realization theory.
Spring
ECS - Department of Electrical and Computer Engineering

EEL 5185. System Identification
3(3,0) PR: EEL 3657 or C.I. Dynamic systems, models of time-invariant linear, time-varying and nonlinear systems, nonparametric frequency- and time-domain identification methods, kernel expansion techniques, parameter estimation methods, experiment design, and applications.
Spring
ECS - Department of Electrical and Computer Engineering

EEL 5245C. Power Electronics
3(2,1) PR: EEE 4309C. Principles of power electronics, power semiconductor devices, inverter topologies, switch-mode and resonant dc-to-dc converters, cyclo-converters, applications.
Fall
ECS - Department of Electrical and Computer Engineering

EEL 5255. Advanced Power Systems Analysis
3(3,0) PR: EEL 4216 or C.I. This is an advanced course in power systems engineering, designed to provide a student with the knowledge of steady-state analysis in power system operation.
Even Spring
ECS - Department of Electrical and Computer Engineering

EEL 5268. Communications and Networking for Smart Grid
3(3,0) EEL 4515C. Introduction to smart grid communication infrastructure, communication technologies in smart grid, communication networking in smart grid, communication for vehicle-to-grid systems, secure communication and networking.
Occasional
ECS - Department of Electrical Engineering and Computer Science

EEL 5291. Distributed Control and Optimization for Smart Grid
3(3,0) EEL 3657 and EEL 4216 or C.I. Electric power systems, transmission and distribution networks, voltage stability and VAR control, dispatch of distributed generation, optimization, frequency control, electricity markets and incentive controls.
Odd Fall
ECS - Department of Electrical and Computer Engineering

EEL 5432. Satellite Remote Sensing
3(3,0) PR: EEL 3470 or PHY 4324. Fundamentals of satellite remote sensing, orbits and geometry, radiative transfer theory, microwave and infrared sensing techniques, ocean, ice and atmosphere geophysical measurements.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 5437C. Microwave Engineering
4(3,3) PR: EEL 3470 or C.I. Transmission line theory, Smith charts, S-parameters, simple impedance matching circuits, wave guides, resonators, basic microwave measurements.
Fall
ECS - Department of Electrical and Computer Engineering

EEL 5439C. RF and Microwave Communications
4(3,3) PR: EEL 4436C or equivalent. RF and microwave active circuits microstrip amplifier, oscillator, and mixer design and fabrication. Receiver design, noise, familiarization with network and spectrum analyzers.
Spring
ECS - Department of Electrical and Computer Engineering

EEL 5462C. Antenna Analysis and Design
3(3,1) PR: EEL 3470 or equivalent. Fundamentals of antennas; dipoles, loops, arrays, apertures, and horns. Analysis and design of various antennas.
Odd Fall
ECS - Department of Electrical and Computer Engineering

EEL 5582. Fundamentals of Wireless Communications
3(3,0) PR: EEL 4515C and EEL 3XXX Introduction to Randomness Large and small scale radio propagation effects, performance of digital modulation over wireless channels, capacity analysis of wireless channels, signal processing techniques to mitigate fading effects and improve performance of wireless systems (diversity techniques, adaptive modulation, multiple antenna and MIMO systems).
Even Spring
ECS - Department of Electrical and Computer Engineering

EEL 5625. Applied Control Systems
3(3,0) C.I. Designed to develop basic understanding of advanced control methods for nonlinear systems described by ordinary and partial differential equations and to expose recent results and ongoing research issues in the area of MEMS.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EEL 5630. Digital Control Systems
3(3,0) PR: EEL 3657. Real-time digital control system analysis and design, Z-transforms, sampling and reconstruction, time and frequency response, stability analysis, digital controller design.
Fall
ECS - Department of Electrical and Computer Engineering

EEL 5669. Introduction to Robotics and Autonomous Vehicles
3(3,0) PR: EEL 5173 or C.I. Forward and inverse kinematics, velocity kinematics, dynamics, constrained motions, path and trajectory planning, position and trajectory control, single and multivariable control, introduction to force/impedance control, introduction to consensus-based control.
Fall
ECS - Department of Electrical and Computer Engineering

EEL 5690. Introduction to Medical Robotics and Tele-Operation
3(3,0) PR: EEL 3657 or Medical students in their second year or later. Medical robots for minimally invasive surgery, kinematics, constrained workspace and dexterity, haptics, tele-operation and network based control, basics of laparoscopic surgery.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 5704. Computer Aided Logical Design
3(3,0) EEL 4742C. Design, analysis and synthesis of sequential logic circuits and systems. Data path and controller design using a hardware description language.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 5706. Resilient Computer System Design
3(3,0) EEL 4768 or CDA 5106 or EEL 5708, or C.I. Advanced concepts in hardware/software fault tolerance: fault models, coding in computer systems, module and system level fault detection mechanisms, such as TMR, rollback, and recovery.
Occasional
ECS - Department of Electrical Engineering and Computer Science

EEL 5722C. Field-Programmable Gate Array (FPGA) Design
3(3,3) PR: EEE 3342C with a "C" (2.0) or better grade. FPGA architectures, design flow, technology mapping, placement, routing, reconfigurable computing applications, and evolvable hardware.
Even Fall
ECS - Department of Electrical and Computer Engineering

EEL 5771C. Engineering Applications of Computer Graphics
3(2,3) PR: EGN 3420 or C.I. Computer graphics in engineering applications. Laboratory assignments.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 5780. Wireless Networks
3(3,0) PR: EEL 4781 or C.I. The wireless networking topics include: cellular networks, multiple access protocols, channel assignment and resource allocation, mobility and location management, handoffs, routing, authentication, call admission control and QoS provisioning, network layer issues, wireless data networking (WAP, GSM, GPRS, CDMA, WCDMA.).
Even Spring
ECS - Department of Electrical and Computer Engineering

EEL 5796. Big Data Computer Architecture and Systems
3(3,0) EEL 4768 or CGS 3763 or C.I. Computer hardware architecture and operating systems design, implementation and administrative techniques for big data computing platforms which run applications to analyze datasets of massive size and dimensionality.
Even Fall,Odd Spring
ECS - Department of Electrical Engineering and Computer Science

EEL 5820. Image Processing
3(3,0) PR: MAP 2302, EEL 4750 or C.I. Two-dimensional signal processing techniques; pictorial image representation; spatial filtering; image enhancement and encoding; segmentation and feature extraction; introduction to image understanding techniques.
Odd Spring
ECS - Department of Electrical and Computer Engineering

EEL 5825. Pattern Recognition
3(3,0) PR: EEL 4750 or C.I. Preliminaries of pattern recognition, Bayesian Decision Theory, linear discriminant functions, Neural Network approaches, decision tree classifiers, unsupervised learning and clustering, non-parametric techniques, and other topics reflecting the state-of-the art.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 5860. Software Requirements Engineering
3(3,0) PR: Graduate standing or C.I. Excellent oral and written communication skills. Excellent problem solving skills. In-depth study of software requirements engineering within a process centered framework. Methods for requirements elicitation, analysis, description, and validation. Formal and informal specification.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 5874. Expert Systems and Knowledge Engineering
3(3,0) PR: EEL 4872 or CAP 4630 C.I. Introduction to expert systems in engineering. Expert systems tools and interviewing techniques. This course is hands-on and project oriented.
Spring
ECS - Department of Electrical and Computer Engineering

EEL 5881. Software Engineering I
3(3,0) PR: COP 4331C or C.I. Design, implementation, and testing of computer software for Engineering applications.
Fall,Spring
ECS - Department of Electrical and Computer Engineering

EEL 5936. Current Topics in EECS
0(1,0) PR: Open to all ECE graduate students. Lectures presented by ECE and national lectures will provide our students a broad view of the state of the art EE and CE fields. Graded S/U.

ECS - Department of Electrical and Computer Engineering

EEL 6026. Optimization of Engineering Systems
3(3,0) PR: Graduate standing and C.I. A unified treatment of optimization methods often used to solve problems in engineering and applied sciences. Software packages are used when appropriate.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6208. Advanced Machines
3(3,0) PR: EEL 4205. Theory of electric machines using reference frame transformations: Basic principles of dc and ac machines, including induction and synchronous, are included. Simulation techniques for steady state and dynamic performance analysis will be used to analyze operation of electric machines with solid state drives.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6246. Power Electronics II
3(3,0) PR: EEL 5245C. Advanced topics in power electronics, soft-switching techniques, small-signal modeling of PWM and resonant converters, control techniques, power factor correction circuits.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6269. Advanced Topics in Power Engineering
3(3,0) PR: EEL 6255. A current topic will be discussed such as power system transients, system protection, T&D, and dielectric engineering.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6272. Smart Power Grids Protection
3(3,0) EEL 4216 or C.I. Different aspects of protection of smart grids. Provides a comprehensive understanding of protection of modern power systems including protection of renewable energies and protection of automated power systems.
Spring
ECS - Department of Electrical and Computer Engineering

EEL 6361. Emerging Device Computing Architectures
3(3,0) CDA 5106 or EEL 5708 or C.I. Post-CMOS logic devices. Spintronic logic and memory systems. Memristor-based processing elements. Logic-In-Memory and non-Boolean computing approaches. System design and performance assessment, and applications.
Occasional
ECS - Department of Electrical Engineering and Computer Science

EEL 6364. Neuromorphic Computing Architecture, Circuit and Device
3(3,0) EEL 5825 or EEE 5390 or C.I. Advanced concepts in neuromorphic computing architectures and its hardware implementations using nano-scale emerging spin-transfer torque and memristor devices.
Fall
ECS - Department of Electrical Engineering and Computer Science

EEL 6425C. RF and Microwave Measurement Techniques
4(3,3) PR: EEL 4436C or EEL 6482 or EEL 5439C or C.I. RF and Microwave components in wireless systems; i.e., antennas, passive components, active circuits, as well as noise, modulation are characterized by measurement and designed/verified by EM/circuit software.
Fall
ECS - Department of Electrical and Computer Engineering

EEL 6463. Antenna Analysis and Design II
3(3,0) PR: EEL 5462C. Aperture antennas, reflectors, and microstrip antennas.
Even Spring
ECS - Department of Electrical and Computer Engineering

EEL 6481. Numerical Techniques in Electromagnetics
3(3,0) PR: EEL 6488 or C.I. Applications of finite difference methods (FDTD), finite element method, integral equation method (method of moments) to electromagnetics.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6482. Electromagnetic Theory I
3(3,0) PR: EEL 5439C or C.I. Maxwell's equations, boundary conditions, propagation and reflection, electromagnetic theorems and principles, guided waves and scattering.
Fall
ECS - Department of Electrical and Computer Engineering

EEL 6488. Electromagnetic Theory II
3(3,0) PR: EEL 6482 or C.I. Scattering, diffraction, Green's function, and method of moments.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6489. Advanced Topics in Electromagnetics and Microwaves
3(3,0) PR: C.I. Advanced and current topics in EM fields, antennas, and microwaves.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6504. Communications Systems Design
3(3,0) PR: EEL 6530. Information and coding theory. Modem design. Binary and M-ary modulations. Intersymbol interference and pulse shaping. DS and FS spread-spectrum systems.
Fall
ECS - Department of Electrical and Computer Engineering

EEL 6530. Communication Theory
3(3,0) PR: EEE 5542 or C.I. Communication in the presence of noise; analog and pulse modulation; use of phase-locked loops, synthesizers, VCOs, system implementations.
Spring
ECS - Department of Electrical and Computer Engineering

EEL 6532. Information Theory and Coding
3(3,0) PR: EEE 5542 or C.I. Concepts regarding information: Covers entropy, channel capacity, Shannon's theorems, Fano's inequality, coding theory, linear, Hamming, and cyclic codes, Hamming, Singleton, Gilbert-Varshamov, and Plotkin Bounds.
Spring
ECS - Department of Electrical and Computer Engineering

EEL 6537. Detection and Estimation
3(3,0) EEE 5542. Use of hypothesis testing (Bayes, Minimax, Neyman-Pearson) and estimation theory (Bayes, Maximum-likelihood) for detecting or estimating signals in noise. Application in communications and radar.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6590. Advanced Topics in Communications
3(3,0) PR: C.I. Advanced and current topics in communications, such as coding theory, information theory, spread spectrum, etc.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6616. Adaptive Control
3(3,0) PR: EEL 5173. System identification and adaptive control design, including identification algorithms, MRAC, STR, and stochastic adaptive control. Lyapunov stability and input-output stability.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6619. Nonlinear Robust Control and Applications
3(3,0) PR: EEL 5173 and EEL 6621. Stability, performance and robustness of nonlinear systems with uncertainties, Lyapunov-based designs, recursive designs and nonlinear optimal designs.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6621. Nonlinear Control Systems
3(3,0) PR: EEL 5173. Phase plane descriptions of nonlinear phenomena, limit cycles, jump conditions, stability, describing functions, Liapunov and Popov theory, time and frequency domain analysis for nonlinear systems.
Even Fall
ECS - Department of Electrical and Computer Engineering

EEL 6662. Advanced Robotics
3(3,0) PR: EEL 5559 or C.I. Geometric Nonlinear Control, Control of Redundant Robots, Computer Vision and Vision-based control, Formation Control, and Cooperative Rules and Behaviors of Robotic Vehicles.
Odd Spring
ECS - Department of Electrical and Computer Engineering

EEL 6667. Planning and Control for Mobile Robotic Systems
3(3,0) PR: EEL 5173 or EEL 5630. Non-holonomic systems, kinematics and dynamics, trajectory planning and obstacle avoidance, canonical terms, control design, stability, performance, and robustness.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6671. Modern and Optimal Control Systems
3(3,0) PR: EEL 5173. The optimal control problem. Necessary conditions for constrained minimums in finite dimensional space. Application to discrete time control problems. Pontryagin conditions and Hamilton-Jacobi equations. Computational considerations.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6674. Optimal Estimation for Control
3(3,0) PR: EEL 5173 or C.I. Optimal filtering, smoothing, and prediction methods are analyzed with applications to a number of linear and nonlinear dynamic systems.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6680. Advanced Topics in Modern Control Systems
3(3,0) PR: C.I. Introduces students to present-day issues in control systems analysis, design, and implementation.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6683. Cooperative Control of Networked Autonomous Systems
3(3,0) PR: EEL 5173 or C.I. Fundamentals of cooperative control theory for autonomous vehicles and agents, with emphasis on consensus, effects of intermittent and delayed communication/sensing network, and cooperative control designs.
Odd Fall
ECS - Department of Electrical and Computer Engineering

EEL 6723. Reconfigurable Logic Applications
3(3,0) PR: EEL 5722C or C.I. Field-programmable gate array (FPGA) architectures, reconfigurable computing applications, and emerging central processing unit CPU+FPGA hybrid platform. The overall objective is to investigate the state-of-the-art FPGA-based reconfigurable computing both from a hardware and software perspective.
Odd Spring
ECS - Department of Electrical and Computer Engineering

EEL 6760. Data Intensive Computing
3(3,0) PR: CDA 5106 or C. I. Data intensive computing and its enabling systems architectures such as MapReduce, cloud computing and storage, with a focus on system architecture, middleware and building blocks, programming models, algorithmic design, and application development.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6762. Performance Analysis of Computer and Communication Systems
3(3,0) PR: EEL 4742C and STA 3032 or C.I. Stochastic modeling and discrete-event simulation; Markov chains; networks of queues; SemiMarkov models; application to multiprocessor systems, switching and multi-user communications.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6769. Parallel Knowledge Processing Systems
3(3,0) PR: EEL 6762 and EEL 5874 or C.I. Design and performance of computer architectures supporting parallel reasoning techniques, including concurrency in search algorithms, genetic algorithms, semantic networks, marker-propagation, and rule-based systems.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6785. Computer Network Design
3(3,0) PR: EEL 4768C or C.I. Network types and network protocols. Design of networks and analysis of their performance.
Fall
ECS - Department of Electrical and Computer Engineering

EEL 6788. Advanced Topics in Computer Networks
3(3,0) PR: EEL 4781 or C.I. Advanced topics in the networking field, driven by the latest research and technology developments.
Odd Fall
ECS - Department of Electrical and Computer Engineering

EEL 6812. Introduction to Neural Networks
3(3,0) PR: EEL 5825 or C.I. Preliminaries of Neural Networks, simple layer perceptrons, multi-layer perceptrons, Kohonen neural networks, radial basis function neural networks, adaptive resonance theory neural networks, and support vector machines.
Spring
ECS - Department of Electrical and Computer Engineering

EEL 6823. Image Processing II
3(3,0) EEL 5820 or C.I. Advance topics in image processing: nonlinear and adaptive filtering morphological processing, color image processing, texture analysis, and image encoding.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6843. Machine Perception
3(3,0) EEL 5820 or EEL 5825 or C.I. Advanced methods of machine understanding; simulation of intelligent machine systems; automatic recognition systems; visual tracking systems; multispectral feature analysis.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6865. Architecture and Design of Software Intensive Systems
3(3,0) Graduate standing or C.I.; and EEL 4851C or equivalent; and EEL 4884C or EEL 5881. In depth study of software architecture and design of engineering complex software-intensive systems. Theory and practice.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6875. Autonomous Agents
3(3,0) PR: EEL 4872 or CAP 4630 or C.I. Agent architectures, including behavioral, decision theoretic and logic (BDI) based. Multi-agent systems, agent communication languages. Negotiation, argumentation, coalition formation. Project oriented.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6876. Current Topics in Artificial Intelligence
3(3,0) PR: EEL 4872 or CAP 4630 or C.I. Review of the state-of-the-art research in selected current topics in artificial intelligence. Includes extensive review of current literature and class discussion.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6878. Modeling and Artificial Intelligence
3(3,0) PR: EEL 4872 or CAP 4630 or C.I. Introduction to artificial intelligence techniques applied to computer-based modeling, simulation, and training.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6883. Software Engineering II
3(3,0) PR: EEL 5881 or equivalent; C.I. Continuation of EEL 5881. Emphasis on term projects and case studies.
Spring
ECS - Department of Electrical and Computer Engineering

EEL 6885. Software Engineering Quality Assurance Methods
3(3,0) EEL 5881, EEL 6883. Methods for verification and validation of software quality, including software engineering metrics and models.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6886. Software Testing Theory
3(3,0) Graduate standing or C.I.; and Probability and Statistics; Calculus through Differential Equations; Numerical Methods and Matrix Algebra; Data Structures and Algorithms; C or C++ programming. Issues and current research in testing software-intensive systems. Application of mathematics, statistics, and operations research to software test; test automation; projects and analysis of literature.
Occasional
ECS - Department of Electrical and Computer Engineering

EEL 6897. Software Development for Real-Time Engineering Systems
3(3,0) PR: EEL 5881, EEL 6883. Issues associated with developing software for real-time systems, including parallel processing, task synchronization, and task scheduling.
Occasional
ECS - Department of Electrical and Computer Engineering

EES 5318. Industrial Ecology
3(3,0) PR: ENV 3001, ENV 4341. Discussion of similarities between ecological systems and industrial systems with the emphasis on material cycles, energy flow, pollution prevention, organizational structures, and environmental management.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

EEX 5051. Exceptional Children in the Schools
3(3,0) PR: Senior standing or C.I. Characteristics, definitions, educational problems, and appropriate educational programs for the exceptional children in schools.
Fall,Summer
ED - Department of Child, Family and Community Sciences

EEX 5702. Planning Curriculum for Pre-Kindergarten Children with Disabilities
3(3,0) Focus on curriculum planning; developmentally appropriate practices and implementation of individualized instruction for pre-kindergarten children with disabilities.
Spring
ED - Department of Child, Family and Community Sciences

EEX 5750. Communication with Parents and Agencies
3(3,0) Presentation of methods of interacting with community agencies, supporting and collaborating with families, developing a case management system, and facilitating program transition.
Summer
ED - Department of Child, Family and Community Sciences

EEX 6017. Typical and Atypical Applied Child Development
3(3,0) Focus on the stages and sequence of development and the impact of disabilities and biomedical risk factors on learning and development.
Fall
ED - Department of Child, Family and Community Sciences

EEX 6028. Challenges of Poverty in Special Education
3(3,0) C.I. Examines the impact of poverty on students with disabilities in high poverty schools and the challenges this impact has on teaching these students.
Occasional
ED - Department of Child, Family and Community Sciences

EEX 6061. Instructional Strategies Pre-K-6
3(3,0) A varying exceptionalities strategies (SLD, EH, MH) course using a cross-categorical model. The course is concerned with the pre-k handicapped child through grade 6. A required field experience must be completed with the class depending on prior experience.
Spring
ED - Department of Child, Family and Community Sciences

EEX 6065. Programming for Students with Disabilities at the Secondary Level
3(3,0) PR: Graduate standing or C.I. and EEX 5051. Addresses instructional needs of secondary students with disabilities. It provides information on instruction, academic and social-personal skills, and transition planning.
Spring
ED - Department of Child, Family and Community Sciences

EEX 6107. Teaching Spoken and Written Language
3(3,0) Diagnosis and remediation of spoken and written language problems found in the exceptional populations. Overview of alternative methods of communication.
Fall
ED - Department of Child, Family and Community Sciences

EEX 6218. Diagnostic Assessment and Intervention Planning in Exceptional Education
3(3,0) PR: Graduate standing or C.I. This course develops advanced instructional and intervention planning and decision-making knowledge and skills using school and classroom-based instructional data in reading and mathematics.
Summer
ED - Department of Child, Family and Community Sciences

EEX 6222. Observation and Assessment of Young Children
3(3,0) Study of formal and informal observation and assessment.
Summer
ED - Department of Child, Family and Community Sciences

EEX 6246. Nature of Autism: Theory and Educational Practice
3(3,0) Theory and teaching applications for students with autism spectrum disorders includes 20 hour field-based experience. Designed for application towards requirements for State Endorsement in Autism.
Fall,Spring
ED - Department of Child, Family and Community Sciences

EEX 6295. Assessment and Curriculum Prescriptions for the Exceptional Population
3(3,0) Addresses contemporary assessments and models for assessing exceptional children. Also addresses curriculum and prescription.
Summer
ED - Department of Child, Family and Community Sciences

EEX 6297. Assessment, Diagnosis, and Curriculum Prescriptions for Students with Autism
3(3,0) Contemporary assessments and models for assessing exceptional children to address curriculum and prescription. Specific emphasis is placed on assessment of students with autism spectrum disorders.
Fall,Spring
ED - Department of Child, Family and Community Sciences

EEX 6342. Seminar-Critical Issues in Special Education
3(3,0) PR: EEX 5051. An examination of research and current literature dealing with some of the critical issues in all areas of special education.
Summer
ED - Department of Child, Family and Community Sciences

EEX 6524. Organization and Collaboration in Special Ed
3(3,0) PR: C.I. Addresses evaluation, assessment, personnel resource, grant writing, and other administrative issues. Presents collaborative models of intervention and service delivery.
Spring
ED - Department of Child, Family and Community Sciences

EEX 6612. Methods of Behavioral Management
3(3,0) Analysis of the principles of behavior management and precision teaching and application of these principles to the solving of classroom management problems.
Fall
ED - Department of Child, Family and Community Sciences

EEX 6619. Advanced Behavior Analysis
3(3,0) EEX 6612 This course prepares practitioners to use the principles of advanced behavior analysis (ABA) to assess and teach communication skills to individuals with autism and develop knowledge of current augmentative and alternative communication
(AAC) technology.
Summer
ED - Department of Child, Family and Community Sciences

EEX 6759. Transition Planning and Interdisciplinary Teaming for Students with Disabilities
3(3,0) PR: Graduate standing or C.I. Interdisciplinary teaming to include available resources, the recognition of the role of parents, teachers, and other professionals; functional community-based curriculum; employability skills; and transition planning.
Fall,Summer
ED - Department of Child, Family and Community Sciences

EEX 6863. Supervised Teaching Practicum with Exceptional Children
2-7(12-40) PR: Bachelor?s degree, approved program, and C.I. Supervised observation and teaching of an exceptional student.
Occasional
ED - Department of Child, Family and Community Sciences

EEX 7320. Program Evaluation and Planning in Special Education
3(3,0) PR: Admission to Education PhD program. Focus on evaluation models and summative program evaluations. Students are required to demonstrate knowledge of systemic program planning, models of program funding and program change.
Odd Spring
ED - Department of Child, Family and Community Sciences

EEX 7428. Personnel Preparation: Special Education
3(3,0) PR: Admission to Education PhD program. Focus on issues and strategies in preparation of teachers for students with disabilities; course development, implementation, adaptations/ modifications for pre-service personnel with disabilities.
Spring
ED - Department of Child, Family and Community Sciences

EEX 7527. Professional Writing Grant Writing in Special Education
3(3,0) PR: Admission to Education PhD program. Writing for professional publication in special education; review and edit works of others; grant writing and review for private foundations and state and federal agencies.
Fall,Summer
ED - Department of Child, Family and Community Sciences

EEX 7536. Seminar: Urban Special Education Leadership
3(3,0) PR: Doctoral standing. Focus on how districts, schools, and communities can improve educational outcomes for children with disabilities and children who are at risk in urban settings.
Summer
ED - Department of Child, Family and Community Sciences

EEX 7766. Technology Research Training in Special Education
3(3,0) PR: Admission to Education PhD program. Computer-assisted instruction and technology with special needs populations, demonstrates emerging technologies and provides instruction in personal productivity tools for special educators in higher education.
Even Spring
ED - Department of Child, Family and Community Sciences

EEX 7865. Internship in College Instruction in Special Education
3(3,0) PR: Admission to Education PhD program. Supervised experience in design, delivery, and evaluation of a college course in special education or disability services.
Fall,Spring
ED - Department of Child, Family and Community Sciences

EEX 7866. Internship in Practicum Supervision in Special Education
3(3,0) PR: Admission to Education PhD program. Supervised experience in observing, supervising, and evaluating student teacher performance in a practicum setting in special education or disability services.
Fall,Spring
ED - Department of Child, Family and Community Sciences

EEX 7936. Current Issues Trends in Special Education
3(3,0) PR: Admission to PhD Education program. Analysis and review of contemporary issues and trends in special education, selecting and; defending a position on efficacy, legal, ethical, social, and policy issues.
Fall
ED - Department of Child, Family and Community Sciences

EEX 7947. Internship in Special Education Policy and Leadership
3(0,3) PR: Admission to Exceptional Education track of the Ph.D. in Education or C.I. Supervised internship experience in policy analysis and application in special education and disability services. May be used in the degree program a maximum of 3 times only when course content is different.
Summer
ED - Department of Child, Family and Community Sciences

EGC 6431. Guiding Human Relationships I
3(3,0) C.I. Human relationship skills that will enhance intrapersonal and interpersonal relationship skills in classrooms.
Occasional
ED - Department of Educational and Human Sciences

EGC 6432. Guiding Human Relationships II
3(3,0) C.I. Advanced human relationship skills that will enhance intrapersonal and interpersonal relationship skills in classrooms.
Occasional
ED - Department of Educational and Human Sciences

EGI 6051. Understanding the Gifted/Talented Student
3(3,0) A study of characteristics of the gifted/talented students; theories and research; identification procedures; special problems; educational forces.
Occasional
ED - School of Teaching, Learning, and Leadership

EGI 6245. Curriculum and Instruction for Teaching Advanced, Gifted, and Talented Learners
3(3,0) PR: Graduate standing or C.I. This course will develop knowledge, skills, and evidenced-based strategies to design curriculum appropriate for the advanced, gifted, and talented learner through a range of services.
Fall
ED - School of Teaching, Learning, and Leadership

EGI 6246. Education of Special Populations of Gifted Students
3(3,0) Focuses on needs of gifted subgroups, including females, minorities, handicapped, and students with learning and emotional problems. S.E.
Occasional
ED - School of Teaching, Learning, and Leadership

EGI 6247. Developing Advanced Programs and Services: Acceleration and Enrichment for Academically and Intellectually Gifted Learners
3(3,0) Graduate standing or C.I. Servicing and teaching academically gifted learners through content acceleration and enrichment. (Clusters, honors, advanced coursework, at middle and secondary levels; compacted elementary curricula).
Summer
ED - School of Teaching, Learning, and Leadership

EGI 6305. Theory and Development of Creativity
3(3,0) This course focuses on the concept of creativity and explores various means of integrating creative strategies and instructional content areas.
Occasional
ED - School of Teaching, Learning, and Leadership

EGI 6417. Guidance and Counseling Strategies for Teachers of Gifted & Talented Individuals
3(3,0) PR: Graduate standing or C.I. Guidance and counseling procedures and strategies for teachers of gifted/talented students, including student group dynamics; communication with parents; career goals; alternative educational opportunities.
Spring
ED - School of Teaching, Learning, and Leadership

EGM 6653. Theory of Elasticity and Plasticity
3(3,0) PR: EML 5237. Review of stress and strain; solution by tensor stress and potential functions; linear and nonlinear elasticity; constitutive models; for elastic-(visco)plastic solids.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EIN 5108. The Environment of Technical Organizations
3(3,0) PR: Graduate status or CI; EGS 4624 recommended. Presentation and investigation into the principles required to transform technologists into managers focusing on engineers, scientists, and other professionals providing services in technically-oriented organizations.
Fall
ECS - Department of Industrial Engineering and Management Systems

EIN 5117. Management Information Systems I
3(3,0) PR: C.I. The design and implementation of computer-based Management Information Systems. Consideration is given to the organizational, managerial, and economic aspects of MIS.
Spring
ECS - Department of Industrial Engineering and Management Systems

EIN 5140. Project Engineering
3(3,0) PR: Graduate standing or C.I. Role of engineer in project management with emphasis on project life cycle, quantitative and qualitative methods of cost, schedule, and performance control.
Fall,Spring
ECS - Department of Industrial Engineering and Management Systems

EIN 5248C. Ergonomics
3(2,2) PR: C.I. Applications of anthropometry, functional anatomy, mechanics, and physiology of musculoskeletal system concepts in the engineering design of industrial tools, equipments, and workstations.
Fall
ECS - Department of Industrial Engineering and Management Systems

EIN 5251. Usability Engineering
3(3,0) PR: STA 3032 or equivalent. Usability paradigms/principles; cognitive walk-throughs; heuristic, review-based, model-based, empirical and storyboard evaluation; techniques; query techniques; laboratory techniques; and field study approaches.
Spring
ECS - Department of Industrial Engineering and Management Systems

EIN 5255C. Interactive Simulation
3(2,2) PR: Graduate standing or C.I. Introduction to significant topics relative to the development and use of simulators for knowledge transfer in the technical environment.
Fall
ECS - Department of Industrial Engineering and Management Systems

EIN 5317. Training System Design
3(3,0) PR: Seniors, post bac or graduate standing or C.I. How human performance deficiencies should be addressed from a systems design point of view. Manpower, personnel, and training considerations will be examined.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 5346. Engineering Logistics
3(3,0) ESI 5306 or ESI 4312. Study of the logistics life cycle involving planning, analysis and design, testing, production, distribution, and support.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 5356. Cost Engineering
3(3,0) Cost estimation and control of engineering systems throughout the product life cycle.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 5392C. Manufacturing Systems Engineering
3(2,2) PR: EIN 4391C or C.I. The integration of manufacturing technologies and information processing concepts into a system for controlling the manufacturing enterprise.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 6182. Engineering Management
3(3,0) PR: EIN 5140, EIN 5108, EIN 6370. Capstone investigation and analysis of topics for improving engineering enterprises in national and international competitive environments. Quantitative engineering tools/methods will be used.
Spring
ECS - Department of Industrial Engineering and Management Systems

EIN 6215. System Safety Engineering and Management
3(3,0) PR: C.I. Occupational injury and accident statistic. Accident investigation and prevention methods. Hazard analysis. Occupational safety and health standards and regulations. Product safety and liability.
Spring
ECS - Department of Industrial Engineering and Management Systems

EIN 6258. Human Computer Interaction
3(2,2) Computer task analysis, human-computer design guidelines and history, usability testing, next generation user interfaces, human-virtual environment interaction.
Fall
ECS - Department of Industrial Engineering and Management Systems

EIN 6270C. Work Physiology
3(2,2) PR: EIN 5248C or C.I. Applications of the concepts of endurance fatigue, recovery and the energy cost of work in the determination of work capacity, job design, personnel assignment, and work/rest scheduling.
Even Spring
ECS - Department of Industrial Engineering and Management Systems

EIN 6271. Human Reliability
3(3,0) PR: ESI 5219. Methods for analysis and quantification of human performance; human error probability; applications to design and analysis of new and redesign of existing aviation, industrial, management, and power generation systems.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 6279C. Biomechanics
3(2,2) PR: EIN 5248C or C.I. Applications of body link system, kinematic aspect of body movement and mechanics of the human body concepts in the engineering design of work-systems.
Odd Spring
ECS - Department of Industrial Engineering and Management Systems

EIN 6326. Technology Strategy
3(3,0) PR: Graduate status. This course is designed to expose engineering management students to cutting edge tools and concepts for managing technology and product strategy. May be repeated for credit.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 6336. Production and Inventory Control
3(3,0) PR: EIN 4333C or equivalent. Review of models and techniques used in forecasting, production control and inventory control. Includes aggregate planning, production scheduling, inventory management, models, etc.
Spring
ECS - Department of Industrial Engineering and Management Systems

EIN 6339. Operations Engineering
3(3,0) PR: EIN 6357, ESI 5306, or C.I. Methods and models for design, management, and control of operational processes in engineering and technical organizations. Includes considerations of quality, productivity, performance, benchmarking, constraints, and strategy.
Fall
ECS - Department of Industrial Engineering and Management Systems

EIN 6357. Advanced Engineering Economic Analysis
3(3,0) PR: EGN 3613; STA 3032 or equivalent. Topics include measuring economic worth, economic optimization under constraints. Analysis of economic risk and uncertainty, foundations of utility functions.
Fall,Spring
ECS - Department of Industrial Engineering and Management Systems

EIN 6370. Innovation in Engineering Design
3(3,0) PR: Graduate standing or C.I. Explores techniques for innovation and presents methods for engineers to foster innovation when designing new products or systems.
Fall
ECS - Department of Industrial Engineering and Management Systems

EIN 6425. Scheduling and Sequencing
3(3,0) Basic problems, models and techniques of scheduling. Emphasis on general job-shop scheduling problems. Analytical, graphical and heuristic methods are examined.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 6459. Concurrent Engineering
3(3,0) Elements of concurrent engineering and its applications. Topics include quality function deployment, design for manufacturability, and design for assembly
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 6528. Simulation Based Life Cycle Engineering
3(3,0) PR: EIN 5255C or DIG 5875C or EIN 5117. This course examines the phenomenon of simulation based life cycle engineering. Case studies illustrate infrastructure and organization change necessary to gain operational and strategic advantage.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 6645. Real-Time Simulation Agents
3(3,0) PR: EIN 5255C. Mathematical modeling and computer simulation of engineering and scientific systems as agents within a simulation. Examination of hardware, software, and solution methods for real-time systems.
Spring
ECS - Department of Industrial Engineering and Management Systems

EIN 6647. Intelligent Simulation
3(2,2) PR: EIN 6645 and EIN 6649C. The range of architectures and technologies relative to the simulation of intelligent processes.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 6649C. Intelligent Tutoring Training System Design
3(2,2) PR: EIN 5317. A systems approach to building intelligent tutoring within training systems. Emphasis on removing the human instructor from the content training.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 6935. Advanced Ergonomics Topics
3(3,0) PR: C.I. Seminar treatment of selected advanced topics in ergonomics.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 6936. Seminar in Advanced Industrial Engineering
3(3,0) Topical seminar. Potential topic areas include quality function deployment, axiomatic design, design quality, benchmarking, re-engineering processes.
Occasional
ECS - Department of Industrial Engineering and Management Systems

EIN 6950. Industrial and Systems Engineering Capstone
3(3,0) ESI 6551 and (ESI 5219 or ESI 6247) and department consent. Project-based course where students work on theoretical and applied research issues related to industrial and systems engineering.
Fall,Spring
ECS - Department of Industrial Engineering and Management Systems

EMA 5060. Polymer Science and Engineering
3(3,0) PR: EGN 3365. Structure and properties of polymers, preparation and processing of polymers, mechanical properties, use in manufacturing and high tech applications.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5104. Intermediate Structure and Properties of Materials
3(3,0) PR: EGN 3365. Fundamentals of dislocation theory, metallurgical thermodynamics and diffusion. Phase transformations, strengthening mechanisms and fracture. Introduction to engineering polymers, ceramics, and composites.
Fall
ECS - Department of Materials Science and Engineering

EMA 5106. Metallurgical Thermodynamics
3(3,0) PR: EGN 3365. Laws of thermodynamics, phase equilibria, reactions between condensed and gaseous phases, reaction equilibria in condensed solution and phase diagrams.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5108. Surface Science
3(3,0) PHY 2049C and C.I. Methods of chemical and physical analysis of surfaces, with emphasis on ultra-high vacuum spectroscopics utilizing electron, ion and photon probes.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5140. Introduction to Ceramic Materials
3(3,0) PR: EGN 3365. Uses, structure, physical and chemical properties, and processing of ceramic materials. Discussions will include recent developments for high technology applications.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5317. Materials Kinetics
3(3,0) PR: C.I. Mass and thermal transport, phase transformations and Arrhenius rate processes.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5326. Corrosion Science and Engineering
3(3,0) PR: EGN 3365. Electrochemical principles and applications to detecting and monitoring corrosion processes. Various forms of corrosion, their causes and control. Techniques of corrosion protection.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5415. Electronic Principles of Materials Properties
3(3,0) PR: EGN 3365 or EMA 3706 or C.I. The course covers the fundamental concepts of band structure and bonding of materials, electrical and thermal conduction in metals and semiconductors.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5504. Modern Characterization of Materials
3(2,2) EMA 5104 or C.I. Techniques and operation of instrumentation (light, scanning, transmission, and auger microscopy) for the characterization of structure, defects, composition, and surfaces.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5505. Scanning Electron Microscopy
3(2,2) PR: EMA 5104 or C.I. A review of electron optics, beam/specimen interactions, image formation, X-ray analysis, specimen preparation, microelectronic applications and crystallography in the SEM.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5584. Biomaterials
3(3,0) PR: EGN 3365. Properties of natural biological materials and their relation to microstructure, biocompatibility, specific applications in orthopedic, cardiovascular, visual, neural, and reconstruction implants.
Even Spring
ECS - Department of Materials Science and Engineering

EMA 5585. Materials Science of Thin Films
3(3,0) PR: Graduate standing or C.I. Interaction of thin film processing techniques with the structure and properties of the materials deposited.
Odd Fall
ECS - Department of Materials Science and Engineering

EMA 5586. Photovoltaic Solar Energy Materials
3(3,0) PR: EGN 3365. Materials properties basic to photovoltaics, structures, homojunction, heterojunction, and surface barrier solar cells, AMDS-1D modeling of c-Si, GaAs bulk and a-Si:H, CIGS, and CdTe thin film solar cells. May be repeated for credit.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5588. Biocompatibility of Materials
3(3,0) PR: EGN 3365 or C.I. Biocompatibility and bioactivity; cell-biomaterials interactions; engineering bone and cartilage; soft-tissue replacements; total hip replacements; nanostructured biomaterials, imaging techniques, preservation techniques for biomaterials, MSDS and FDA compatibility data.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5610. Laser Materials Processing
3(3,0) PR: EGN 3343 or EMA 5106 or C.I. Laser beam optics; laser-material interactions; laser heating, melting, vaporization. Plasma formation; laser surface treatment, welding, machining; laser material synthesis. Thin film deposition, crystal growth.
Occasional
ECS - Department of Materials Science and Engineering

EMA 5705. High Temperature Materials
3(3,0) PR: EMA 5104 or C.I. The course covers the principles of strengthening alloys for high temperature service, alloy and process selection, alloy development and design principles for elevated temperature applications.
Occasional
ECS - Department of Materials Science and Engineering

EMA 6017. Nanostructured Materials
3(3,0) PR: EMA 5104 or C.I. The course covers the science of the building blocks of nanostructured materials, their chemical and structural characterization, material behavior, and the technological implications of these materials.
Occasional
ECS - Department of Materials Science and Engineering

EMA 6126. Physical Metallurgy
3(3,0) PR: EMA 5104 or EMA 3124. Analytical methods in crystallography, dislocation theory, annealing, solid solutions, phases and phase diagrams, ferrous and non- ferrous alloy systems.
Fall
ECS - Department of Materials Science and Engineering

EMA 6129. Solidification and Microstructure Evolution
3(3,0) EML 4142, EMA 5104, or C.I. Cooling process, nucleation, spinodal decomposition, interface instability, cells, dendrites, eutectic and peritectic microstructures, solute segregation, modeling project.
Occasional
ECS - Department of Materials Science and Engineering

EMA 6130. Phase Transformation in Metals and Alloys
3(3,0) PR: EMA 5104 and EMA 5106 or C.I. Principles of thermodynamics, kinetics, and phase diagrams for the understanding of diffusion and diffusionless phase transformations in ferrous and non-ferrous alloys.
Occasional
ECS - Department of Materials Science and Engineering

EMA 6136. Diffusion in Solids
3(3,0) PR: EMA 5104 and EML 5060 or C.I. Fundamental equations and mechanisms of diffusion. Diffusion in metallic, ionic, and semiconducting materials with emphasis on measurement techniques.
Occasional
ECS - Department of Materials Science and Engineering

EMA 6149. Imperfections in Crystals
3(3,0) PR: EMA 5104 or C.I. Describes point, line, and planar defects in crystalline materials. Discusses vacancy formation, dislocation theory, plasticity. grain boundary modeling, and the interaction between defects.
Occasional
ECS - Department of Materials Science and Engineering

EMA 6319. Colloids and Interface Engineering
3(3,0) PR: EMA 5104 or EMA 5060 or C.I. Surface and interfacial tension of liquids, self-assembled monolayers, applications of scanning probe microscopes in interfaces, forces in colloidal systems, stability of macro emulsions, formation and properties of microemulsions, self-assembly.
Occasional
ECS - Department of Materials Science and Engineering

EMA 6516. X-ray Diffraction and Crystallography
3(3,0) PR: EMA 5104 or C.I. Theory and experimental techniques of X-ray diffraction of materials. Topics include the structure of crystalline solids, including lattices, point group and space group theory.
Occasional
ECS - Department of Materials Science and Engineering

EMA 6518. Transmission Electron Microscopy
3(3,0) PR: EMA 5104 or C.I. An introduction to the theory and operation of a transmission electron microscope. Electron diffraction techniques, contrast from images, analytical microscopy, and specimen preparation.
Occasional
ECS - Department of Materials Science and Engineering

EMA 6605. Materials Processing Techniques
3(3,0) PR: EMA 5104 or C.I. Phase transformation; grain size; surface, powder, and composite processing; shape forming; polymer processes; liquid and vapor phase synthesis; radiation-induced processes, mathematical analysis, project.
Occasional
ECS - Department of Materials Science and Engineering

EMA 6611. Optoelectronics Materials Processing
3(3,0) PR: EMA 4413, graduate standing or C.I. Electronic Theory for Materials Preparation, Doping, Metallization, Effect of Materials Properties on Device (eg. Solar Cells, LEDs, and Detectors) Performances.
Occasional
ECS - Department of Materials Science and Engineering

EMA 6626. Mechanical Behavior of Materials
3(3,0) PR: EMA 5104 or EMA 4223. Fundamentals of the mechanical behavior of materials; advanced treatment of elasticity, plasticity, viscoelasticity, creep, fracture and fatigue in a variety of material classes.
Spring
ECS - Department of Materials Science and Engineering

EMA 6628. Materials Failure Analysis
3(3,0) PR: EMA 5104. Comprehensive overview of the general procedures for failure analysis, failure theories, causes of failure, fractography of different failures, and modern analytical tools.
Occasional
ECS - Department of Materials Science and Engineering

EME 5050. Fundamentals of Technology for Educators
3(3,0) PR: Post bac or C.I. Designed to provide participants with an introduction to the field of educational technology content with emphasis on using and integrating technology in K-12 to improve the teaching and learning process.
Fall,Spring
ED - Department of Educational and Human Sciences

EME 5811. Teaching and Learning with Technology
1(1,0) Overview of technologies for teaching and for learning. Practical strategies for using technology in the classroom. May be used in the degree program a maximum of 4 times.

ED - School of Teaching, Learning, and Leadership

EME 6053. Teaching and Learning with Emerging Technologies
3(3,0) PR: Graduate standing or C.I. Study and application of traditional and emerging technological applications available for education including techniques for locating, evaluating, and integrating them into the classroom.
Fall
ED - Department of Educational and Human Sciences

EME 6055. Current Trends in Instructional Technology
3(3,0) Survey of current trends and issues of importance to the field of instructional technology.
Fall
ED - Department of Educational and Human Sciences

EME 6062. Research in Instructional Technology
3(3,0) PR: EDF 6481 and PR or CR: EME 6055 or EME 6613. Critical review and evaluation of landmark research in the areas of educational media, instructional design, and instructional systems.
Fall,Spring,Summer
ED - Department of Educational and Human Sciences

EME 6209. Multimedia Instructional Systems II
3(3,0) PR: EME 6507 and EME 6613. Advanced techniques in delivery and management of web-based multimedia instructional content. Integration of media into web-based instruction. Discussion of delivery and management issues.
Spring
ED - Department of Educational and Human Sciences

EME 6226. Instructional Development and Evaluation
3(3,0) PR: EME 6613 Instructional Systems. The course addresses basic instructional development skills and formative and summative evaluation methods for training in business and industry with application to training educational settings.
Spring
ED - Department of Educational and Human Sciences

EME 6405. Adapting and Integrating Innovative Technologies in Education
3(3,0) PR: EME 6053 or C.I. Use of traditional and emerging technological applications in instructional settings by students and teachers. Includes integrated software packages, multimedia productivity suites, Web 2.0 applications, and desktop publishing, as they relate to K-12 curriculum, students, and teacher productivity.
Spring
ED - Department of Educational and Human Sciences

EME 6417. Interactive Online and Virtual Teaching Environments
3(3,0) PR: EME 6507. Explores issues and trends in educational and human to computer interactions theories as applied to virtual and online participatory learning environments.
Spring
ED - Department of Educational and Human Sciences

EME 6457. Distance Education: Technology Process Product
3(3,0) PR: EME 6507. Instruction and how it is delivered at a distance. Examines technologies, processes, and products of distance education with emphasis on e-learning.
Fall
ED - Department of Educational and Human Sciences

EME 6458. Virtual Teaching and the Digital Educator
3(3,0) PR: EME 6417. Explores practical applications of instructional theories related to virtual and online participatory learning environments.
Summer
ED - Department of Educational and Human Sciences

EME 6507. Multimedia for Education and Training
3(3,0) PR: Graduate standing or C.I. Emphasis on the elements and applications of multimedia and technology in multiple instructional settings. Includes authoring, design, alternative delivery systems, hardware, and software.
Fall,Spring,Summer
ED - Department of Educational and Human Sciences

EME 6601. Instructional Simulation Design for Training and Education
3(3,0) PR: EME 6613. Integration of ISD methods with simulation systems design, including analysis, design, development and formative evaluation of leading-edge training and educational simulation technologies.
Occasional
ED - Department of Educational and Human Sciences

EME 6602. Integration of Technology into the Learning Environments
3(3,0) PR: EME 5050, EME 6053, EME 6405, EME 6507 or C.I. Resources, materials, and strategies for systemic achievement of curriculum goals; investigation of innovative and effective technological advances and practices for use in teaching and learning.
Fall
ED - Department of Educational and Human Sciences

EME 6607. Planned Change in Instructional Technology
3(3,0) In-depth study of the processes of planned change and adoption/rejection of innovations in educational settings.
Spring
ED - Department of Educational and Human Sciences

EME 6613. Instructional System Design
3(3,0) PR: Graduate standing or C.I. This course focuses on the systematic analysis and design of instruction, including task, learner, and context analyses, objectives and learner assessments, media selection, flowcharting and storyboarding.
Fall
ED - Department of Educational and Human Sciences

EME 6614. Instructional Game Design for Training and Education
3(3,0) PR: EME 6613. Integration of instructional design and game development processes, analysis of existing instructional games and game engines and the design of an instructional game.

ED - Department of Educational and Human Sciences

EME 6646. Learning, Instructional Design, and Cognitive Neuroscience
3(3,0) PR: C.I. for students not in the Instructional Design and Technology program. The course examines the application of cognitive neuroscience research and physiological explanations of human learning and for designing training and educational systems.
Summer
ED - Department of Educational and Human Sciences

EME 6705. Administration of Instructional Systems
3(3,0) PR: EME 6613. Provides opportunities for students to examine parameters, problems, and areas of importance in the management of instructional systems.
Occasional
ED - Department of Educational and Human Sciences

EME 6940. Theory into Practice in Educational Technology
3(3,(0) PR: Completion of all core courses in educational technology. Practicum in facilitating the utilization of instructional media and information technologies.

ED - Department of Educational and Human Sciences

EME 7634. Advanced Instructional Systems Design
3(3,0) PR: EME 6613. Analysis of fundamental concepts of theoretical and procedural instructional systems design models with an emphasis on their cognitive origins, pedagogical bases, current and future values.
Spring
ED - Department of Educational and Human Sciences

EME 7942. Doctoral Internship in Educational Technology
3(3,0) PR: Completion of PhD core and 75 percent specialization. Higher education teaching assignment as an intern under a senior faculty mentor in Educational Technology or Instructional Systems.
Occasional
ED - Department of Educational and Human Sciences

EML 5026C. Computational Engineering Analysis
3(2,2) PR: EML 4024C. Principle understanding and project based hands-on experience on computational engineering analysis including Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), and Multi-body Dynamics (MBD)
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5060. Mathematical Methods in Mechanical and Aerospace Engineering
3(3,0) PR: MAP 2302. Vector field theory, generalized coordinates, complex variables, contour integration and Laplace and Fourier transforms and inversions, variable coefficient ODEs and solution of PDEs for governing equations of heat transfer, ideal fluid flow, and mechanics.
Fall
ECS - Department of Mechanical and Aerospace Engineering

EML 5066. Computational Methods in Mechanical and Aerospace Engineering
3(3,0) PR: EML 3034C. Error Norms, interpolation and extrapolation, quadratures and adaptive quadratures, solutions of linear and nonlinear systems of equations, functional approximation, solution of ODE's and MWR.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5090. Mechanical and Aerospace Seminar
0(0,0) PR: Graduate standing or C.I. The course is intended to help MAE graduate students practice public speaking, learn skills of scientific communication, expand their width of knowledge, and promote collaborations. May be repeated.
Fall,Spring
ECS - Department of Mechanical and Aerospace Engineering

EML 5105. Gas Kinetics and Statistical Thermodynamics
3(3,0) PR: EAS 4134 or EML 4703. Molecular and statistical viewpoint of gases and thermodynamics; Boltzmann collision integral, partition functions, non-equilibrium flows. Applications in thermo-fluid systems.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5152. Intermediate Heat Transfer
3(3,0) PR: EML 4142, EML 5060. An intermediate-level course dealing with heat and mass diffusion, boundary layer problems, and radiation from real bodies. Emphasis on combined modes, numerical methods.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5228C. Modal Analysis
3(3,0) PR: EML 3303C, EML 4220, and EML 5060. Theoretical basis. Measurement techniques, excitation, transducers, data acquisition. Detailed data analysis, modal parameter extraction, curve-fitting procedures. Modeling.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5237. Intermediate Mechanics of Materials
3(3,0) PR: EML 3500 or EAS 4200. Elements of elasticity. Failure theories. Bending and torsion. Thin plates. Energy principles. Thick-walled cylinders. Applications to design.
Fall
ECS - Department of Mechanical and Aerospace Engineering

EML 5271. Intermediate Dynamics
3(3,0) PR: EGN 3321 or EML 3217. Dynamics of particles, rigid bodies, and distributed mass systems. Topics include: Hamilton's principle, Lagrange's equations, Numerical methods, and Mechanisms.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5290. Introduction to MEMS and Micromachining
3(3,0) PR: Graduate standing or C.I. Introduction of Micro-Electro-Mechanical-Systems (MEMS) and micromachining (microfabrication) methods. Etching and etching mask. Basics of silicon macromachining processing. Fundamentals of bulk micromachining. Thin film formation and surface micromachining. Microplating and LIGA process. Nonlithographic micromachining process including laser. May be repeated for credit.
Odd Fall
ECS - Department of Mechanical and Aerospace Engineering

EML 5291. MEMS Materials
3(3,0) PR: EML 5060, EML 6211, or C.I. Introduction of materials that are frequently used for MEMS applications such as silicon, metal, ceramics and polymers. The course will focus on fundamental principles involved in structures and properties of the materials, and their applications in MEMS.
Even Spring
ECS - Department of Mechanical and Aerospace Engineering

EML 5311. System Control
3(3,0) PR: EML 4312C; CR: EML 5060. Modern control theory for linear and non-linear systems; controllability and observability. Linear state feedback and state estimators, compensator design.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5402. Turbomachinery
3(3,0) PR: EML 3101, EML 4703 or EAS 4134. Application of the principles of fluid mechanics, thermodynamics, and aerodynamics to the design and analysis of steam and gas turbines, compressors, and pumps.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5403. Science and Technology of Fuel Cells
3(3,0) PR: EGN 3365, EMA 4102 or C.I. Fundamental knowledge along with hands-on experience with design, manufacturing and operation of fuel cells.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5430C. Design for Manufacturing in Turbomachinery: Gas/Steam/Wind Turbines & Generators
3(2,3) PR: EGN 3365 or EMA 3706. Overall assembly of rotating and stationary components in power generation powertrains; probabilistic design, materials, coatings, manufacturing steps, defects for gas/steam/wind turbines and generators.
Fall
ECS - Department of Mechanical and Aerospace Engineering

EML 5431C. Design for Mechanical & Dynamic Integrity and Reliability in Turbomachinery
3(2,3) PR: EGM 3601, EML 4220 or EML 4225, EGN 3365 or EMA 3706. Mechanical & dynamic integrity issues such as creep, fatigue, fracture, rotordynamics, vibration, flutter, as related to turbines and generators; reliability; cost-time-performance trade-off in design.
Spring
ECS - Department of Mechanical and Aerospace Engineering

EML 5456. Turbines for Sustainable Power
3(3,0) PR: EGM 3601, (EGN 3365 or EMA 3706), (EML 3701 or EAS 3101); CR: EML 4142. Multidisciplinary aspects of turbine design for sustainable power generation including aerodynamics to combustion and emissions to reliability; covers multiple applications of convention and green technology.
Fall
ECS - Department of Mechanical and Aerospace Engineering

EML 5532C. Computer-Aided Design for Manufacture
3(2,3) PR: EGN 4535C. Builds on introductory material covered in EML 4535C. Topics include computer modeling for the synthesis, simulation, design and manufacture of mechanical, thermal, and aerospace systems.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5545. Smart and Adaptive Structures
3(3,0) (EAS 4200 or EML 3500) and EML 4225 and (EGN 3365 or EMA 3706) or C.I. Modeling and design of structures with integrated active materials: piezoelectric ceramics and polymers, shape memory alloys and polymers, magneto- / electro-rheological fluids, magneto- / electro-strictives. Multi-stable structures.
Even Spring
ECS - Department of Mechanical and Aerospace Engineering

EML 5546. Engineering Design with Composite Materials
3(3,0) PR: EML 5237. Mechanics of structural components of composite materials under static, thermal, vibratory loads. Instability. Lamina and laminate theory, energy methods, failure theories, and structural joining methods.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5572. Probabilistic Methods in Mechanical Design
3(3,0) PR: EML 3500, STA 3032. Uncertainty modeling in design. Use of probabilistic mathematics to assess strength, stiffness, toughness, and stability. Applications.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 5713. Intermediate Fluid Mechanics
3(3,0) PR: EML 4703. CR: EML 5060. Fluid kinematics; conservation equations; Navier-Stokes equations; boundary layer flow, inviscid flow, circulation and vorticity; low Reynolds number flow; turbulence.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6062. Boundary Element Methods in Engineering
3(3,0) PR: EML 5237 or EML 5713 or C.I. Integral (numerical) solution of potential, Poisson and diffusion equations; applications to heat transfer and fluid flow; complex variable boundary element methods.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6067. Finite Elements in Mechanical, Materials, and Aerospace Engineering I
3(3,0) PR: EML 5237 or EML 5713. Finite element analysis of thermomechanical response of aerospace and mechanical components and structures. Plates and shells. Vibrations. Composite materials. Minimum weight design. CAD interface. Introduction to codes.
Spring
ECS - Department of Mechanical and Aerospace Engineering

EML 6068. Finite Elements in Mechanical, Materials, and Aerospace Engineering II
3(3,0) PR: EML 6067 or C.I. Advanced finite element applications to aerospace and mechanical components and structures. Rotating systems. Fracture mechanics. Aeroelasticity. Buckling. Impact. Use of codes.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6085. Research Methods in Mechanical and Aerospace Engineering
3(3,0) PR: EML 5060. Research project is an MAE option under supervision of an adviser. A project report is due at the end of the semester.
Spring
ECS - Department of Mechanical and Aerospace Engineering

EML 6104. Classical Thermodynamics
3(3,0) PR: EML 3101 or C.I. A general postulative approach to classical macroscopic thermodynamics featuring states as fundamental constructs. Conditions of equilibrium, stability criteria, thermodynamic potentials. Maxwell relations and phase transitions.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6131. Combustion Phenomena
3(3,0) PR: EML 5152. Physical and chemical aspects of combustion phenomena. Rate processes, chemical kinetics, structure, propagation and stability of premixed and diffusion flames.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6144. Boiling and Condensation Heat Transfer
3(3,0) PR: EML 4142 or C.I. Phase changes heat transfer including boiling and condensation. Phenomenological treatment of pool boiling, two-phase flow, and convective boiling. Filmwise and dropwise condensation. Applications.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6154. Conduction Heat Transfer
3(3,0) PR: EML 5152 or C.I. Classical and numerical techniques applied to the solution of steady and transient conduction problems. Applications to the design of thermal systems.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6155. Convection Heat Transfer
3(3,0) PR: EML 5152, EML 5713, or C.I. Convection heat, mass and momentum transfer in laminar and turbulent flows. Applications to the design of thermal systems.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6157. Radiation Heat Transfer
3(3,0) PR: EML 5152 or C.I. Radiation properties of surfaces and analysis of radiative heat transfer between black, gray, non-gray and non-diffuse surfaces. Multimode problems.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6211. Continuum Mechanics
3(3,0) PR: EML 5237. Introduction to tensors; deformation and strain; stress; balance laws; constitutive equations; applications in linear elasticity.
Spring
ECS - Department of Mechanical and Aerospace Engineering

EML 6223. Advanced Vibrational Systems
3(3,0) PR: EML 4220, EML 5271 or C.I. Discrete and distributed parameter systems. Introduction to nonlinear and random vibrations. Concepts of modern dynamic analysis.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6226. Analytical Dynamics
3(3,0) EML 5271. Kane method for kinematics and dynamics of particle and rigid bodies is developed and contrasted with Newton and Lagrange methods. Multibody dynamics.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6227. Nonlinear Vibration
3(3,0) EML 5060 and EML 5271. Robust, reliable algorithms for simulation of nonlinear phenomena; phase planes; limit cycles; stability; period-multiplying bifurcations; strange attractors; Poincare maps; Floquet theory; Lyapunov exponents; applications to mechanical and aerospace systems.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6233. Fundamentals of Fatigue Analysis
3(3,0) PR: EML 6211 or C.I. A review of classical and modern methods of fatigue life prediction and the physical process therein. Primary emphasis relates to metallic materials.
Even Spring
ECS - Department of Mechanical and Aerospace Engineering

EML 6238. Plates and Shells
3(3,0) EGM 3601, EML 6211, EML 5060. This course introduces the reduction of 3D elasticity to an equivalent 2D counterpart; basic assumptions; field equations of the theory of plates and shells; linear and nonlinear theories; buckling and vibrations; refined plate and shell theories.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6295. Sensors and Actuators for Micro Mechanical Systems
3(3,0) PR: EML 5060, EML 6211, or C.I. Introduction of smart materials and functional structures used for sensors and actuators in micromechanical systems. Classifications of sensors and actuators. Physics of sensing and actuation. Evaluation of sensors and actuators. Philosophy of selection of sensors and actuators for specific engineering requirements. Introduction of development of sensors and actuators in micromechanical systems.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6296. MEMS Mechanism and Design
3(3,0) PR: EML 3500. EGM 3601, EML 4142. Miniature Electro Mechanical Systems (MEMS) working mechanisms (mechanical, thermal, electric, piezoelectric, magnetic, etc.). Design rules. May be repeated for credit.
Spring
ECS - Department of Mechanical and Aerospace Engineering

EML 6297. MEMS Characterization
3(3,0) PR: EML 5060, EML 6211, or C.I. Introduction of methods, techniques and philosophies being used to characterize MEMS for engineering applications. Materials characterization, systems characterization (mechanical, electrical, optical, etc). Test methods and sample preparation. Test results analysis.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6299. Advanced Topics on Miniaturization
3(3,0) PR: EML 5060, EML 6211, or C.I. Advanced sensor and actuator devices, advanced micro-thermal systems, advanced topics on materials for MEMS, advanced topics on tribology for MEMS/NEMS, advanced topics on miniature power generation systems.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6305C. Experimental Mechanics
3(2,2) PR: EML 4304C, EML 5237. Selected topics in strain measurements, photoelasticity, holographic interferometry; laser speckle measurement; acoustic emission, measurement of correlation and coherence functions.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6308C. Thermofluids Measurements and Instrumentation
3(2,3) PR: EML 4703, EML 3303C, EML 5152, EML 5060 or C.I.; not open to students that have credit for EAS 6807C. Surface pressure and shear measurements, hotwire anaemometry, heat transfer coefficient measurement, LDV, PDPA and PIV flow field measurements.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6547. Engineering Fracture Mechanics in Design
3(3,0) PR: EML 5237 or C.I. General understanding of elementary concepts. Practical application enabling useful prediction of fracture safety and characteristics. Some general knowledge of fracture mechanisms and fracture criteria.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6712. Mechanics of Viscous Flow
3(3,0) PR: EML 5060, EML 5713. Principal concepts and methods for viscous fluid motion. Incompressible and compressible boundary layer analysis for laminar and turbulent flows.
Odd Fall
ECS - Department of Mechanical and Aerospace Engineering

EML 6725. Computational Fluid Dynamics and Heat Transfer I
3(3,0) PR: EML 5152 or C.I. Finite Difference methods; error and stability analysis; applications to model equations and further developments; matrix methods.
Spring
ECS - Department of Mechanical and Aerospace Engineering

EML 6726. Computational Fluid Dynamics and Heat Transfer II
3(3,0) PR: EML 6725. Development of governing equations; turbulence modeling; numerical solution of Euler and potential equations, Navier-Stokes equations, and boundary layer equations; grid generation.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EML 6808. Analysis and Control of Robot Manipulators
3(3,0) PR: EML 4312C, EML 5271, or C.I. Kinematics and dynamics of multibody systems, especially robot manipulators. Design and control of robot manipulators.
Occasional
ECS - Department of Mechanical and Aerospace Engineering

EMR 6235. Nature of Severe and Profound Disabilities: Theory and Educational Practice
3(3,0) PR: Graduate standing. Overview of theory and teaching applications for students with severe and profound disabilities including major theories and trends, appropriate learning goals, teaching approaches, and environmental arrangements.
Fall,Spring
ED - Department of Child, Family and Community Sciences

ENC 5225. Theory and Practice of Document Usability
3(3,0) Graduate status or senior standing or C.I. Presents theory and practice of how document usability is assessed and improved.
Occasional
CAH - Department of English

ENC 5237. Writing for the Business Professional
3(3,0) PR: Graduate status or senior standing or C.I. A study of the major document designs for professionals in business, focusing on audience, purpose, style, arrangements, and content.
Fall,Spring
CAH - Department of Writing and Rhetoric

ENC 5276. Theory and Practice of Tutoring Writing
3(3,0) PR: Admission to the M.A. in Rhetoric and Composition program, graduate standing or C.I. The theory and practice of assessing and responding to writing as a collaborator (as opposed to evaluator).
Fall
CAH - Department of Writing and Rhetoric

ENC 5337. Rhetorical Theory
3(3,0) PR: Graduate standing or C.I. Overview of theory and history of classical and modern rhetorical theory and rhetorical instruction.
Fall,Odd Summer
CAH - Department of English

ENC 5705. Theory and Practice in Composition
3(2,1) PR: Graduate status or senior standing or C.I. Intensive study of theories of composition, with practical experience in the writing laboratory and in composition classes.
Spring
CAH - Department of Writing and Rhetoric

ENC 5930. Current Topics in Professional Writing
3(3,0) PR: Graduate status or C.I. Students will learn how to produce texts for specialized fields of discourse, including the medical and legal profession, as well as for general publication.
Occasional
CAH - Department of Writing and Rhetoric

ENC 6216. Editing Professional Writing
3(3,0) PR: Graduate standing or C.I. The study of major issues in editing, includes theory and scholarship of professional editing.
Spring
CAH - Department of Writing and Rhetoric

ENC 6217. Technical Editing
3(3,0) PR: Graduate standing in English, or C.I. A study of the strategies for editing the prose, design, and illustrations of print and online technical documents.
Occasional
CAH - Department of English

ENC 6245. Teaching Professional Writing
3(3,0) PR: Graduate standing or C.I. Theory and practice of teaching professional writing in college and the workplace. Includes historical and contemporary approaches.
Occasional
CAH - Department of Writing and Rhetoric

ENC 6247. Proposal Writing
3(3,0) PR: Graduate standing in English or C.I. Theory and practice of writing proposals.
Occasional
CAH - Department of Writing and Rhetoric

ENC 6257. Visual Technical Communication
3(3,0) Graduate standing in English or C.I. Creation and editing of graphics in technical documents.
Occasional
CAH - Department of English

ENC 6261. Technical Writing, Theory and Practice
3(3,0) A study of major trends in technical communication theory and the practices this theory generates.
Occasional
CAH - Department of English

ENC 6292. Project Management for Technical Writers.
3(3,0) Managing a writing project from inception to production; planning, budgeting, personnel, writing, and editing.
Occasional
CAH - Department of English

ENC 6296. Writing and Designing Online Help Systems
3(3,0) PR: Graduate standing or C.I. The theory and practice of writing and designing online help systems (tutorials, procedures, reference) using selected Help offering tools.
Occasional
CAH - Department of English

ENC 6297. Production and Publication Methods
3(3,0) PR: Graduate standing in English or C.I. Production of technical documents including typography, visual rhetoric, layout and design, and planning and managing documentation projects.
Occasional
CAH - Department of English

ENC 6306. Persuasive Writing
3(3,0) PR: Graduate standing in English or C.I. Theory and practice of writing persuasively.
Occasional
CAH - Department of Writing and Rhetoric

ENC 6332. Gendered Rhetoric
3(3,0) PR: Graduate standing in English or C.I. Questions women's and men's linguistic choices, the influence of medium and discipline of discourse, and consequences of status, power, and oppression.
Occasional
CAH - Department of Writing and Rhetoric

ENC 6333. Contemporary Rhetoric and Composition Theory
3(3,0) PR: Graduate standing or C.I. Instruction on politics of basic writing programs, rhetoric, ideology and cultural production, poststructuralism and rhetoric or reminist pedagogies. May be used in the degree program a maximum of 3 times.
Occasional
CAH - Department of Writing and Rhetoric

ENC 6335. Rhetorical Traditions
3(3,0) PR: Graduate standing in English or C.I. Philosophy and techniques of classical rhetoricians such as Isocrates, Aristotle, and Cicero with special attention to their application to contemporary rhetorical situations.
Fall,Spring
CAH - Department of Writing and Rhetoric

ENC 6338. The Rhetorics of Public Debate
3(3,0) PR: Graduate standing in English or C.I. How rhetorical theories further community goals, including activist, political, legislative, and other significant public debates.
Occasional
CAH - Department of English

ENC 6339. Rhetorical Movements
3(3,0) PR: Graduate standing or C.I. To study the principal rhetorical theories of the classical period and rhetoric of the eighteenth and nineteenth centuries. May be used in the degree program a maximum of 3 times.
Occasional
CAH - Department of Writing and Rhetoric

ENC 6421. Digital Rhetorics
3(3,0) Graduate standing or C.I. Study of rhetorical theory and practice shaped by digital environments, technologies, and texts, including contemporary issues around rhetorical invention, identity, and multimodality.
Occasional
CAH - Department of Writing and Rhetoric

ENC 6425. Hypertext Theory and Design
3(3,0) Graduate standing in English or C.I. Theoretical and practical study of the uses and premises of hypertext.
Occasional
CAH - Department of English

ENC 6426. Visual Texts and Technology
3(3,0) PR: Graduate standing. Studies visual dimensions of the texts of digital discourse.
Occasional
CAH - Dean's Office - CAH

ENC 6428. Digital Literacies
3(3,0) PR: Graduate standing or C.I. Study of digital technology's impact on literacy theory, activities, and pedagogy, including reading and writing practices, as well as larger cultural shifts in communication and patterns of thinking.
Occasional
CAH - Department of Writing and Rhetoric

ENC 6429. Teaching Writing With Computers
3(3,0) PR: Graduate standing in English or C.I. Immersion in the theories and practices of writing in electronic spaces including current discourse conventions from speech and print media.
Occasional
CAH - Department of English

ENC 6712. Studies in Literacy and Writing
3(3,0) PR: Graduate standing in English or C.I. Theories of cultural and critical literacy, definitions of literacy, and current political issues in literacy studies.
Odd Fall
CAH - Department of Writing and Rhetoric

ENC 6720. Research Methods in Rhetoric and Composition
3(3,0) PR: Graduate standing or C.I. Study and practice in research methods of Rhetoric and Composition Studies, with emphasis on textual and qualitative approaches.
Spring
CAH - Department of Writing and Rhetoric

ENC 6740. Topics in Rhetoric and Composition
3(3,0) PR: Graduate standing or C.I. In-depth exploration of important historical, theoretical, and/or pedagogical topics in Rhetoric and Composition Studies. May be used in the degree program a maximum of 2 times only when course content is different.
Occasional
CAH - Department of Writing and Rhetoric

ENC 6945. Community Literacy Practicum
3(3,0) PR: Graduate standing in English or C.I. Designed to deepen theoretical understanding of literacy through participation in a community literacy project.
Occasional
CAH - Department of Writing and Rhetoric

ENG 5009. Methods of Bibliography and Research
3(3,0) PR: Graduate status or senior standing or C.I. Bibliographical, library and systematic approaches to research at the graduate level in language and literature.
Fall
CAH - Department of English

ENG 6074. Historical Movements in Literary, Cultural, and Textual Studies
3(3,0) PR: Graduate standing or C.I. Theories of literature, cultural, and textual formation from ancient Greece to the mid 20th century.
Occasional
CAH - Department of English

ENG 6078. Contemporary Movements in Literary, Cultural, and Textual Theory
3(3,0) PR: Graduate standing in English or C.I. Theories of literature, cultural, and textual formation since the mid 20th century.
Fall
CAH - Department of English

ENG 6800. Introduction to Texts and Technology
3(3,0) PR: Graduate standing or C.I. Basic concepts of graduate study in Texts and Technology.
Fall
CAH - Dean's Office - CAH

ENG 6801. Texts and Technology in History
3(3,0) PR: Acceptance into the Texts and Technology program, graduate standing, or C.I. Explores the history of relations between the Texts and Technology. We examine how various technologies have influenced the nature of texts they produce.
Spring
CAH - Dean's Office - CAH

ENG 6806. Digital Editing and Databases
3(3,0) PR: Enrollment in Texts and Technology PhD program or Digital Media master's program. Applied aspects of textual reproduction and editing, including scanning (OCR) and XML coding, as such processes relate to database content and use.
Occasional
CAH - Department of English

ENG 6808. Narrative Information Visualization
3(3,0) Graduate standing or C.I. Exploration of theory and practice of information visualization, with emphasis on visualization in interactive digital texts. Includes working with large datasets to develop narrative visualizations.
Occasional
CAH - Dean's Office - CAH

ENG 6810. Theories of Texts and Technology
3(3,0) PR: Acceptance into the Texts and Technology program, graduate standing, or C.I. Introduces general theoretical concepts as a basis for the advanced study of Texts and Technology.
Spring
CAH - Dean's Office - CAH

ENG 6811. Cultural Contexts in Texts and Technology
3(3,0) PR: Graduate standing or C.I. Selected cultural contexts in which texts and technologies converge and where reciprocal mediation, definition, or transformation occurs. May be used in the degree program a maximum of 2 times.
Fall
CAH - Dean's Office - CAH

ENG 6812. Research Methods for Texts and Technology
3(3,0) PR: Acceptance into the Texts and Technologies program, graduate standing, or C.I. Prepares students to design, conduct, and critique empirical research in textual technologies, broadly conceived.
Fall
CAH - Dean's Office - CAH

ENG 6813. Teaching Online in Texts and Technology
3(3,0) PR: Graduate standing. Theory and practice for designing electronic courses and curricula in texts and technology, strategies, theories, and best practices.
Fall
CAH - Dean's Office - CAH

ENG 6814. Gender in Texts and Technology
3(3,0) PR: Graduate standing. Relationships among text, science, technology and gender.
Occasional
CAH - Dean's Office - CAH

ENG 6826. Professionalization in Texts and Technology
0(0,0) Graduate standing or C.I. Professional development workshops, panel discussions, and hands-on activities to assist graduate students in preparing for successful careers.
Fall,Spring,Summer
CAH - Dean's Office - CAH

ENG 6939. Topics in Text and Technology
3(3,0) PR: Graduate standing or C.I. Experimental methods of writing and research, possibly including photography, cinema, Internet, and other transformations of narrative form. May be used in the degree program a maximum of 3 times.
Fall,Spring
CAH - Dean's Office - CAH

ENG 6947. Internship in Texts and Technology
3(3,0) PR: Admission to Texts and Technology PhD program. Internship in opportunity to integrate practical experience with theory and content from Texts and Technology program. Graded S/U.
Fall
CAH - Dean's Office - CAH

ENG 6950. Capstone Course
3(3,0) PR: Graduate standing in English and at least 18 graduate credit hours in English. Systematic and comprehensive revision of previous graduate writing with special attention to use of theory and professionalization towards the goal of publication and/or conference presentation.
Spring
CAH - Department of English

ENT 5016. New Venture Design
3(3,0) Graduate standing or C.I. Applies contemporary methodologies to guide the creation, validation, and ongoing development of new business models for startup businesses and other new ventures.
Fall
BA - Department of Management

ENT 5185. Technological Entrepreneurship
3(3,0) Graduate standing Examines how technology and innovation processes affect social and organizational change, and the distinct challenges associated with launching, managing and growing technology-based business ventures.
Spring
BA - Department of Management

ENT 5206. New Venture Implementation
3(3,0) ENT 5XXX New Venture Design Explains how to execute a well-researched business model by implementing required and strategic actions necessary to launch a new venture.
Spring
BA - Department of Management

ENT 5946. Small Business Consulting
3(3,0) PR: Graduate standing This is a highly experiential course where students are assigned to teams that complete consulting projects for local small businesses.
Fall
BA - Department of Management

ENT 6617. Innovation and Entrepreneurship Strategy
3(3,0) Graduate standing An in-depth examination of strategies that promote the diffusion of innovations and the success of innovation-driven business and social ventures.
Fall,Summer
BA - Department of Management

ENV 5410. Water Treatment
3(3,0) PR: EES 4202C or ENV 5517 or C.I. Potable water regulations, standards, chemical reactors, oxidation, disinfection, disinfection by-products, ultraviolet irradiation. Internal corrosion and microbial control in municipal and industrial water distribution systems.
Odd Spring
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 5505. Sludge Management Operations in Environmental Engineering
3(3,0) PR: ENV 4561. Theory and design of sludge management operations and processes in environmental engineering, including stabilization dewatering and ultimate disposal.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 5517. Engineering Chemical and Biological Processes
3(3,0) CR: ENV 4561(or equivalent) or C.I. Coverage of equilibrium/aquatic chemistry, softening and coagulation, and disinfection of water. Microbiology and biochemistry as applied to activated sludge system design.
Fall
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 5636. Environmental and Water Resources Systems Analysis
3(3,0) PR: ENV 3001 or C.I. Discussion of environmental and water resources systems with the emphasis on cost-effectiveness, pollution prevention, and sustainability to aid in environmental engineering decision-making.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6015. Physical/Chemical Treatment Systems in Environmental Engineering
3(3,0) PR: ENV 4561 and EES 4202C or C.I. Theory and design of physical and chemical operations and processes in environmental engineering using latest technologies.
Fall
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6016. Biological Treatment Systems in Environmental Engineering
3(3,0) PR: EES 4111C and ENV 4561 or C.I. Theory and design of biological operations and processes in environmental engineering using the latest technologies.
Spring
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6030. Environmental Biotechnology
3(3,0) PR: EES 4111C. Environmental Biotechnology teaches graduate students the management of microorganism-based engineer systems for applications in waste treatment and energy generation.
Even Spring
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6046. Membrane Mass Transfer
3(3,0) ENV 6015 or C.I. Introduction to modeling of mass transfer in membrane systems; membrane morphology, mathematical development of mass transfer coefficients; fouling mechanisms, system modeling, and applications.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6047. Environmental Informatics and Remote Sensing
3(3,0) PR: Graduate standing. Discussion of how the environmental informatics, including hydroinformatics, can be applied for sustainable decision making with the emphasis on remote sensing, GIS, expert systems, decision support systems, data mining, and environmental management.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6106. Theory and Practice of Atmospheric Dispersion Modeling
3(3,0) PR: C.I. Atmospheric composition and dynamics. Engineering methods of mathematical modeling, both for point source and mobile source. Current computer models will be used.
Even Spring
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6126. Design of Air Pollution Controls
3(3,0) Current methods for engineering design and performance analysis of air pollution control equipment to include scrubbers, baghouses, electrostatic precipitators, VOC incinerators, others.
Odd Spring
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6347. Hazardous Waste Incineration
3(3,0) Theory and applications of design and operations of hazardous waste incinerators. Includes detailed consideration of air pollution control equipment
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6515L. Biological Unit Operations and Processes Laboratory
3(1,6) ENV 6016. Unit operations laboratory for biological processes in wastewater treatment, drinking water and remediation including obtaining biokinetic parameters in treatability studies biostability.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6519. Aquatic Chemical Processes
3(3,0) PR: EES 4202C and EES 4111C or C.I. The applicability of water chemistry and physical chemistry on natural waters and waste-water with emphasis on environmental engineering problems.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6558. Industrial Waste Treatment
3(3,0) PR: ENV 4561. Theories, methods, unit operations of management, reduction, treatment, disposal of industrial wastes.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

ENV 6616. Ecological Engineering and Receiving Water Impacts
3(3,0) ENV 5517 or C.I. Ecological engineering principles, ecosystem restoration and receiving water impacts. Introduction of green building design and integration of new ecosystem associated with green infrastructures and applications for eco-city design.

ECS - Department of Civil, Environmental, and Construction Engineering

ENY 5006C. Entomology
4(2,6) Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Morphology, physiology, ontogeny, behavior, ecology and population biology of insects.
Odd Fall
COS - Department of Biology

EPD 5395. Physical and Sociological Implications of Handicapping Conditions
3(3,0) Overview of physical and sociological factors which may contribute to delayed learning or physical impairments in the exceptional populations. Physical interventions and first-aid practices are examined.

ED - Department of Child, Family and Community Sciences

ESE 5214. Secondary School Curriculum Improvement I
3(3,0) Regular Certificate or C.I. Secondary School self studies for curriculum projects, accreditation reports, or staff development.

ED - School of Teaching, Learning, and Leadership

ESE 5344. Managing the Secondary Classroom
3(3,0) Graduate Standing or C.I. Strategies, methods, materials, and technologies for managing the secondary classroom. Creating positive classroom environments, maintaining/increasing appropriate behaviors, and teaching behavior appropriate to all students.
Fall
ED - School of Teaching, Learning, and Leadership

ESE 6036. Contemporary Issues in Secondary Education
3(3,0) Graduate Standing or C.I. Examination of contemporary issues in secondary education at the local and national levels. Students will identify, define, and analyze important problems facing secondary schools.
Spring
ED - School of Teaching, Learning, and Leadership

ESE 6217. Curriculum Design
3(3,0) PR: Basic Teacher Certificate or C.I. Goal analysis, task analysis, needs assessment, and writing performance objectives for developing courses of study.
Fall
ED - School of Teaching, Learning, and Leadership

ESE 6256. Critical Issues in Secondary Education
1(1,0) PR: ESE 6935; CR: Graduate Internship. Examination of critical issues in secondary education including classroom and behavior management, technology, and current issues.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

ESE 6416. Curriculum Evaluation
3(3,0) PR: ESE 6217 or an equivalent curriculum course.

ED - School of Teaching, Learning, and Leadership

ESE 6427. Capstone: Action Research in Secondary Education
3(3,0) ESE 5XXX Managing Secondary Classroom, EDF 6472, ESE 6XXX (Contemporary Issues in Secondary Education), EME 6602, LAE 5496 Capstone course for Secondary Education MEd. Engage in action research analyzing an issue or challenge in their own classroom practice.
Fall
ED - School of Teaching, Learning, and Leadership

ESE 6935. Introductory Seminar in Secondary Education
1(1,0) PR: Admission to graduate program or C.I. Overview of Master of Teaching policies and expectations, and exploration on the teaching profession in terms of professional organizations, accomplished practices, publications, issues, and terminology.
Occasional
ED - School of Teaching, Learning, and Leadership

ESE 6936. Capstone Seminar in Secondary Education
2(2,0) PR: ESE 6935 or C.I. As a culminating experience, this seminar provides students with the opportunity to synthesize what they have learned throughout their Master of Arts in Teaching program through completion of a portfolio and reflective analysis of learning.
Occasional
ED - School of Teaching, Learning, and Leadership

ESI 5219. Engineering Statistics
3(3,0) PR: C.I. Discrete and continuous probability distributions, hypothesis testing, regression, nonparametric stats and ANOVA.
Fall,Spring
ECS - Department of Industrial Engineering and Management Systems

ESI 5227. Total Quality Improvement
3(3,0) PR: STA 3032 or equivalent. Quality improvement (QI) tools and techniques, advanced QI techniques, quality improvement systems, total quality management concepts and implementation, planning and management tools, and case studies.
Occasional
ECS - Department of Industrial Engineering and Management Systems

ESI 5236. Reliability Engineering
3(3,0) PR: ESI 4234 or equivalent, or C.I. Reliability theory and modeling approaches. Topics include: failure data analysis, maintainability, reliability standards (DOD), software reliability, reliability in design, and electronic systems reliability.
Fall
ECS - Department of Industrial Engineering and Management Systems

ESI 5306. Operations Research
3(3,0) PR: STA 3032. Methods of operations research, including formulation for models and derivation of solutions; linear programming, network models queueing theory, simulation, and nonlinear optimization techniques.
Fall
ECS - Department of Industrial Engineering and Management Systems

ESI 5359. Risk Assessment and Management
3(3,0) PR: ESI 5219 or STA 3032. Problems and complexities involved in risk assessment and management. Selected methodologies are illustrated through realistic applications in engineering and the sciences.
Occasional
ECS - Department of Industrial Engineering and Management Systems

ESI 5419C. Engineering Applications of Linear and Nonlinear Optimization
3(2,2) PR: ESI 4312 or ESI 5306. Course covers linear and nonlinear optimization applications in production planning, staffing, engineering design, distribution networks, and other engineering areas. Focuses on practicing or analyses.
Occasional
ECS - Department of Industrial Engineering and Management Systems

ESI 5531. Discrete Systems Simulation
3(3,0) PR: STA 3032. Methods for performing discrete systems simulation, including network modeling, will be treated.
Spring
ECS - Department of Industrial Engineering and Management Systems

ESI 6217. Statistical Aspects of Digital Simulation
3(3,0) PR: ESI 5219 or C.I. Statistical issues in digital simulation including input data analysis, pseudorandom number generation, experimental design, and simulation output analysis.
Odd Spring
ECS - Department of Industrial Engineering and Management Systems

ESI 6224. Quality Management
3(3,0) PR: STA 3032 or equivalent or C.I. Philosophy and concepts of quality management, organization for quality, quality cost, quality audits and corrective actions, tools and techniques for improvement.
Spring
ECS - Department of Industrial Engineering and Management Systems

ESI 6225. Quality Design and Control
3(3,0) PR: STA 3032 or equivalent. Concepts and methods for quality design and control, including statistical process control (SPC), control charts, process capability, product and process design and improvement, Taguchi methods, case studies. May be repeated for credit.
Fall
ECS - Department of Industrial Engineering and Management Systems

ESI 6247. Experimental Design and Taguchi Methods
3(3,0) PR: STA 3032 or ESI 4234. Introduction to Taguchi Concepts and Methodologies, use of design of experiments for quality design and improvement.
Spring
ECS - Department of Industrial Engineering and Management Systems

ESI 6336. Queueing Systems
3(3,0) PR: ESI 5219. Analysis of queueing systems and waiting line problems using analytical and Monte Carlo methods. Laboratory assignments.
Odd Spring
ECS - Department of Industrial Engineering and Management Systems

ESI 6358. Decision Analysis
3(3,0) PR: ESI 4312 or ESI 5306. Classical Bayesian analysis; utility and its measurement; multiattribute utility methods; influence diagrams; Analytic Hierarchy Process; behavioral aspects; simulation.
Fall
ECS - Department of Industrial Engineering and Management Systems

ESI 6418. Linear Programming and Extensions
3(3,0) PR: ESI 4312 or ESI 5306. Simplex and Revised Simplex Method; interior-point methods; duality; large-scale optimization; decomposition algorithms; upper bounds; linearization; parametric LP; goal programming.
Even Spring
ECS - Department of Industrial Engineering and Management Systems

ESI 6532. Object-Oriented Simulation
3(2,2) Object-oriented modeling and development techniques for building large process-based discrete event simulation models. Concurrency in discrete event simulation. Object-oriented simulation environment.
Even Spring
ECS - Department of Industrial Engineering and Management Systems

ESI 6551. Systems Architecting
3(3,0) PR: ESI 4312 or ESI 5306 or C.I. Introduction to heuristics approach to the process of systems architecting in business, economics, social, urban, military and government domains emphasizing the conceptual representation and acceptance phases.
Fall
ECS - Department of Industrial Engineering and Management Systems

ESI 6609. Industrial Engineering Analytics for Healthcare
3(3,0) ESI 5219 or C.I. Course includes an overview of major data analytics algorithms and methods introduced through examples from Healthcare.
Fall
ECS - Department of Industrial Engineering and Management Systems

ESI 6891. IEMS Research Methods
3(3,0) PR: ESI 5219. Assist students in producing publishable research and to introduce new tools which may be needed for collection and analysis of research data.
Fall
ECS - Department of Industrial Engineering and Management Systems

ESI 7480. Optimization and Data Mining for Industrial Engineers
3(3,0) ESI 5306 or ESI 6418 The course introduces basic optimization theory and related data analysis algorithms for industrial engineering and data mining applications.
Odd Fall
ECS - Department of Industrial Engineering and Management Systems

EUH 5208. Colloquium in Early Modern History
3(3,0) Graduate standing or C.I. Readings and discussion on selected topics in the historiography of Early Modern Europe (circa 1400 to 1800).
Occasional
CAH - Department of History

EUH 5419. Colloquium in Roman History
3(3,0) PR: Graduate standing or C.I. Readings in selected topics in the history of Ancient Rome. May be used in the degree program a maximum of 2 times only when course content is different.
Occasional
CAH - Department of History

EUH 5459. Colloquium in French History
3(3,0) PR: Graduate standing or C.I. Readings in selected topics in French History. May be used in the degree program a maximum of 3 times.
Even Summer
CAH - Department of History

EUH 5546. Colloquium: British History
3(3,0) PR: Graduate status or senior standing or C.I. Selected topics in British history. There is no standard syllabus because content is different with each offering. May be repeated for credit only when course content is different.
Occasional
CAH - Department of History

EUH 5579. Colloquium in Soviet Russia
3(3,0) PR: Graduate status or senior standing or C.I. Reading and class discussion of the literature on selected topics in Russian history, 1911-present.
Occasional
CAH - Department of History

EUH 5595. Colloquium in Czarist Russia
3(3,0) Graduate status or senior standing or C.I. Selected topics on the literature of Russia under the Czars prior to 1917.
Occasional
CAH - Department of History

EUH 5905. European Imperialism
3(3,0) PR: Graduate standing or C.I. Readings in selected topics in the history of European Imperialism. May be used in the degree program a maximum of 3 times only when course content is different.
Occasional
CAH - Department of History

EUH 5925. Colloquium in Medieval Europe
3(3,0) PR: Graduate standing or C.I. Readings in selected topics in the history of medieval Europe. May be used in the degree program a maximum of 3 times only when course content is different.
Occasional
CAH - Department of History

EUH 6939. Seminar in European History
3(3,0) Research seminar on selected topics in European history. May be repeated for credit only when course content is different.
Odd Spring
CAH - Department of History

EXP 5208. Sensation and Perception
3(3,0) PR: Graduate status or senior standing or C.I. A study involving human information processing with regard to physical and psychological variables in sensory and perceptual phenomena.
Odd Spring
COS - Department of Psychology

EXP 5254. Human Factors and Aging
3(3,0) PR: Graduate standing, post bac, or senior standing with C.I. An overview of issues related to enhancing quality of life of elderly through the implementation of basic human factors principles in environmental and task design.
Even Fall
COS - Department of Psychology

EXP 5256. Human Factors I
3(3,0) PR: Graduate status or senior standing or C.I. Survey of human factors literature. Introduction to topics including human capabilities and human interfaces with human-machine systems.
Fall
COS - Department of Psychology

EXP 6116. Visual Performance
3(3,0) PR: EXP 5208 or C.I. The psychology, physics and physiology of vision with an emphasis on the human visual response and applications of vision research.
Spring
COS - Department of Psychology

EXP 6255. Human Performance
3(3,0) PR: EXP 6506 and (EXP 5256 or EXP 6257), or C.I. Human performance dimensions and concepts of assessment of human capabilities; performance acquisition, information processing and decision making; applications of principles to the understanding of stress and performance effectiveness.
Fall
COS - Department of Psychology

EXP 6257. Human Factors II
3(3,0) PR: EXP 5256. The second in the series of basic human factors courses involving an in-depth examination of issues.
Spring
COS - Department of Psychology

EXP 6258. Human Factors III
3(3,0) PR: EXP 5256, EXP 6257. The third in the series of basic human factors courses. Current topics in human factors, exchange of information on practical field experience in human factors.
Fall
COS - Department of Psychology

EXP 6506. Human Cognition and Learning
3(3,0) PR: EXP 3404C and EXP 3604C. Research and theory relating to attention, memory, problem solving, and reasoning.
Fall
COS - Department of Psychology

EXP 6541. Advanced Human Computer Interaction
3(3,0) PR: EIN 6258 or C.I. Principles and guidelines of advanced human computer interaction as they apply to a variety of complex human machine systems.
Spring
COS - Department of Psychology

EXP 6939. Teaching Seminar
3(3,0) PR: C.I. Orientation to and supervision in teaching assigned courses.
Occasional
COS - Department of Psychology

EXP 6945. Human Factors Internship
8(0,12) PR: EXP 5256, EXP 6257, PSY 6216C, PSY 7218C, EXP 6255, or C.I. Supervised placement in an industrial, governmental, or consulting setting. Student completes a specific project under the supervision of an organizational sponsor and a faculty member.
Occasional
COS - Department of Psychology

FIL 5406. Theories of Film Production
3(3,0) PR: Film MFA student or C.I. Comparative analysis of motion picture production methodologies, including the studio industrial model, from a historical/critical perspective.
Spring
CAH - School of Visual Arts and Design

FIL 5414. Film Vision, Scope & Financing
3(3,0) PR: Acceptance to the MFA Film & Digital Media program. Exploration of the creative and business challenges filmmakers encounter when working on a screenplay, including financing, making, and distributing a digital, microbudget motion picture.
Spring
CAH - School of Visual Arts and Design

FIL 5419. Developing the Film Screenplay
3(3,0) PR: Admission to MFA Film & Digital Media-Entre Dig Cin track, or C.I. Development of an existing, original screenplay to fit the demands, limits, and possibilities of the microbudget, digital film paradigm.
Fall
CAH - School of Visual Arts and Design

FIL 5800. Research Methods in Film and Digital Media
3(3,0) PR: Admission to Film and Digital Media graduate program or C.I. Research methodology for the study and production of film and new media.
Spring
CAH - School of Visual Arts and Design

FIL 5853. Independent Cinematic Forms
3(3,0) PR: Admission to MFA Film & Digital Media/Entre Dig Cin track, or C.I. Evolution of low budget independent cinematic films through the works of modern and classical filmmakers within and beyond the studio system.
Fall
CAH - School of Visual Arts and Design

FIL 5864. Ways of Seeing: The Expressive Potential of Film
3(3,0) PR: Admission to MFA Film and Digital Media or C.I. A study of multidisciplinary theories that relate to the practice of filmmaking.
Fall
CAH - School of Visual Arts and Design

FIL 5924. Graduate Seminar
1(1,0) PR: Admission to MFA Film & Digital Media/Entrepreneurial Digital Cinema track, or C.I. Strategies for a successful graduate experience, and forum for modes of inquiry, film technique, production and distribution issues; and thesis defense preparation. Graded S/U. May be used in the degree program a maximum of 6 times.
Fall
CAH - School of Visual Arts and Design

FIL 6146. Screenplay Refinement
3(3,0) Admission to Emerging Media MFA program, FIL 5419 or C.I. Refining a feature film script into an effective, compelling, easy to read, and "marketable" shooting script that forms the foundation for thesis film production. May be used in the degree program a maximum of 2 times.
Spring
CAH - School of Visual Arts and Design

FIL 6454. Microbudget Production Design
3(3,0) PR: Admission to Film and Digital Media graduate program or C.I. Aesthetic principles as applied to production design of low-budget projects.
Occasional
CAH - School of Visual Arts and Design

FIL 6596. Advanced Directing Workshop for Film and Digital Media
3(3,0) PR: Admission to MFA Film & Digital Media-Entre Dig Cin track or C.I. Advanced directorial concepts and techniques used in film to elicit, support and direct compelling film performances. May be used in the degree program a maximum of 2 times only when course content is different.
Fall,Spring
CAH - School of Visual Arts and Design

FIL 6614. Domestic and International Models of Distribution
3(3,0) PR: School of Film and Digital Media master's student. Global media distribution business models, with emphasis on independent film distribution in a variety of markets, including theatrical, home video, and internet.
Occasional
CAH - School of Visual Arts and Design

FIL 6619. Guerilla Marketing and Models of Distribution
3(3,0) Admission to Emerging Media MFA program, graduate standing, or C.I. Grass roots and non-traditional marketing strategies for film and media products. Global media distribution business models in a variety of markets.
Fall
CAH - School of Visual Arts and Design

FIL 6640. Microbudget Production Management
3(3,0) PR: Admission to Film and Digital Media graduate program or C.I. Strategies for budgeting and scheduling low-budget films and digital media products.
Fall
CAH - School of Visual Arts and Design

FIL 6644. Microbudget Pre-Production
3(3,0) Admission to Emerging Media MFA program, FIL 6146, or C.I. Examination of pre-production issues facing filmmakers working with low budgets, with focus on creative concept, design, style, and location selection.
Fall
CAH - School of Visual Arts and Design

FIL 6649. Microbudget Post-Production
3(3,0) Admission to Emerging Media MFA program, FIL 6644, or C.I. Continued examination of production challenges that are unique to filmmakers working with extremely limited budgets, including casting, schedules, and set management.
Spring
CAH - School of Visual Arts and Design

FIL 6655. Intellectual Property Issues and Entertainment Law
3(3,0) PR: or CR: GEB 6115 or C.I. Exploration of evolving intellectual property issues in the digital world, including basic contract requirements for producing independent film and digital media products.
Occasional
CAH - School of Visual Arts and Design

FIL 6670. From Screenplay to Deal
3(3,0) PR: Graduate Standing. Development of a film script to a marketable property, creating a strategy for and assembling the elements necessary to obtain financing.
Spring
CAH - School of Visual Arts and Design

FIL 6673. Arts and Media Entrepreneurship
3(3,0) Admission to Emerging Media MFA program, graduate standing, or C.I. Application of core business concepts to create a company and develop a sales proposal suited to a variety of potential arts and emerging investors.
Fall
CAH - School of Visual Arts and Design

FIN 6404. Foundations of Finance
3(3,0) PR: Graduate Accounting Foundations and Economic Concepts with Math Applications courses. Overview of business finance. Topics include financial statement analysis, time value of money, stocks, bonds, risk, capital investments, cost of capital, capital structure and dividends.

BA - Department of Finance

FIN 6406. Strategic Financial Management
3(3,0) PR: MBA Professional Core I. Emphasis on the theory and analytical techniques associated with the major financial decisions of corporate management, including risk analysis, capital budgeting, short- and long-term financial management.
Fall,Spring
BA - Department of Finance

FIN 6465. Financial Analysis Seminar
3(3,0) PR: Graduate standing. Seminar in financial analysis; examining financial statements, annual reports and other sources of information. Not open to students who have completed or are enrolled in GEB 6895.
Occasional
BA - Department of Finance

FIN 6515. Analysis of Investment Opportunities
3(3,0) PR: Graduate standing and FIN 6406. Deals with the theory and tools of analysis required in the management of financial assets.
Fall
BA - Department of Finance

FIN 6536. Seminar in Investments
3(3,0) PR: Graduate standing, FIN 6406, and FIN 6515. Analysis of options, futures, and other derivative securities and their use in hedging strategies. Other topics include institutional equity and bond portfolio management techniques.
Occasional
BA - Department of Finance

FIN 6605. International Financial Management
3(3,0) PR: ECO 6416, FIN 6406. The theory of finance as applied to the operations of multinational firms and international capital markets.
Occasional
BA - Department of Finance

FIN 7807. Corporate Finance Theory
3(3,0) PR: Admission to the Business doctoral program and FIN 6406 or equivalent; ECO 6416 or equivalent; or C.I. Elaborate coverage of significant theoretical/classical literature and review of empirical literature to provide a sound framework of conceptual knowledge for doctoral students.
Odd Fall
BA - Department of Finance

FIN 7808. Introduction to the Theory of Finance
3(3,0) PR: Admission to Business PhD program and FIN 6406 or equivalent, or C.I. This course provides an introduction to decisions and equilibrium under uncertainty, portfolio theory, asset pricing models, option pricing, capital structure, and agency theory.
Occasional
BA - Department of Finance

FIN 7811. Seminar in Financial Markets and Institutions
3(3,0) PR: Admission to Business doctoral program and FIN 6406 or equivalent, ECO 6416 or equivalent, and C.I. Extensive study of the theoretical and empirical literature dealing with current theory of the operation of financial markets and financial intermediaries.
Odd Spring
BA - Department of Finance

FIN 7816. Investment Theory
3(3,0) PR: Admission to business doctoral program, FIN 7807, QMB 7565, and C.I. Extensive coverage of theoretical and empirical literature dealing with modern investment thought, portfolio theory, capital market equilibrium, and related topics.
Even Fall
BA - Department of Finance

FIN 7930. Seminar in Market Microstructure
3(3,0) PR: Admission to the business doctoral program, FIN 7811, FIN 7816, and C.I. Study of private sector financial theory, policy, empires, and decision making.
Occasional
BA - Department of Finance

FIN 7935. Finance Research Forum
1(1,0) PR: Admission to Business PhD program and FIN 6406 or equivalent, or C.I. Research and pedagogical issues in finance, including research presentations by faculty, doctoral students, and invited scholars. May be used in the degree program a maximum of 6 times.
Occasional
BA - Department of Finance

FLE 5331. Foreign Language Methods at the Secondary Level
3(3,0) PR: Graduate standing or C.I. Methods of planning and teaching foreign language at the secondary level. The emphasis is on teaching communicatively and on integrating culture in the 6-12 classroom.
Summer
ED - School of Teaching, Learning, and Leadership

FLE 5335. Foreign Language Methods at the Elementary Level
3(3,0) PR: Graduate standing or C.I. Methods of planning and teaching foreign language at the elementary level. The emphasis is on teaching communicatively and on integrating culture in the K-6 classroom. May be repeated for credit.
Summer
ED - School of Teaching, Learning, and Leadership

FLE 6695. Professional Development in Foreign Language Education
3(3,0) PR: FLE 4333 Foreign Language Teaching in the Secondary School or teaching experience. Fluency in the target language and English. Introduction to the professional development of the foreign language educator by means of instruction in action research, grant writing, and writing for publication/conference presentation.
Occasional
ED - School of Teaching, Learning, and Leadership

FSS 6365. Management of Food Service Operations
3(3,0) PR: Graduate standing. The examination of techniques and mechanisms employed in the management of food service operations. Comparisons, case studies, and selected topics focus on private and public operations.
Odd Spring
RCHM - Department of Foodservices and Lodging Management

GEB 5516. Technological Entrepreneurship
3(3,0) PR: Graduate standing. Focus of the course is on identification, evaluation and commercialization of new technologies. Emphasis will be placed on the legal, financial and strategy aspects of technology transfer and development.
Occasional
BA - Department of Management

GEB 5941. Professional Business Practicum
3(3,0) PR: Acceptance in the graduate program. The practicum is to provide a professional business work experience for students entering the MBA program without such experience.
Occasional
BA - Dean's Office - BA

GEB 6115. Entrepreneurship
3(3,0) PR: Graduate standing. Seminar on topics concerning the entrepreneurial process in small and large organizations, including needs assessment, sources and methods of innovation, financing, and barriers to entrepreneurship.
Fall,Odd Summer
BA - Department of Management

GEB 6116. Business Plan Formation
3(3,0) PR: GEB 6115 or GEB 6518 or MBA Foundation Core. Professional development and preparation of company business plan. Full analysis of plan and outside evaluation and ranking.
Occasional
BA - Department of Management

GEB 6365. International Business Analysis
3(3,0) PR: MBA Professional Core I. Extensive coverage of international business environment with emphasis on the functional operation of multinational firms.
Spring
BA - Department of Finance

GEB 6518. Strategic Innovation
3(3,0) PR: Graduate standing or C.I. An in-depth examination of strategic and innovation processes as they relate to emerging technologies from invention to commercialization.
Occasional
BA - Department of Management

GEB 6895. Business Intelligence
3(3,0) Consent of College of Business Graduate Studies. Study of the sources, acquisition, warehousing, analysis, and application of data pertaining to business decision-making in the firm.
Occasional
BA - Department of Management

GEB 7911. Structural Equation Modeling for Business Research
3(3,0) PR: ECO 7423, MAR 7626. Applications of structural equation modeling (SEM) for business research including factor analysis, aspects of measurement theory, mathematical and technical issues about model fitting are covered.

BA - Department of Management

GEO 6472. World Political Geography
3(3,0) Graduate standing or C.I. Examination of the theoretical foundations of world political geography, the elements comprising it, and the comparative regional representations.
Occasional
COS - Department of Political Science

GEY 5007. Women and Healthy Aging
3(3,0) PR: Graduate standing or senior undergraduate. The examination of the health promotion opportunities and bio-psycho-social challenges of women as they age.
Spring
CON - Department of Nursing

GEY 5600. Physiology of Aging
3(3,0) BSC 2010C or PCB 3703C or APK 4110C or equivalent. The purpose of this course is to develop the student's understanding of the effects of human aging on various body systems.
Occasional
ED - Department of Child, Family and Community Sciences

GEY 5648. Gerontology: An Interdisciplinary Approach
3(3,0) PR: Graduate status or senior standing or C.I. The study of aging will be presented from man interdisciplinary and multidisciplinary approach spanning the social sciences and health.
Occasional
HPA - School of Social Work

HIM 5118C. Health Care Informatics and Information Technology
4(3,1) PR: Admission to M.S. in Health Care Informatics or C.I. An overview of the current state of health care informatics including existing and future technologies. Areas of emphasis include EHR, HIE, Standards, and clinical decision making.
Fall
HPA - Department of Health Management and Informatics

HIM 6007. Survey of Health Information Management
1(1,0) PR: Admission to Health Care Informatics or C.I. Provide students with an understanding of computer information systems utilized in a health care environment.
Fall
HPA - Department of Health Management and Informatics

HIM 6117C. Health Care Informatics Symposium
4(3,1) PR: Admission to M.S. in Health Care Informatics. The focus of this course is on applying informatics solutions to complex situations facing the U.S. health care industry and found in today's health care organizations.
Summer
HPA - Department of Health Management and Informatics

HIM 6119C. Biostatistics and Decision Analysis
4(3,1) PR: Admission to M.S in Health Care Informatics or C.I. Selected decision structure and solution techniques. Selection, implementation, and results analysis of key statistical methods to support decision making and policy analysis in health care organizations.
Fall
HPA - Department of Health Management and Informatics

HIM 6121C. Privacy and Security in Health Care Informatics
4(3,1) Admission to the Health Care Informatics program or C.I. Focuses on privacy and security issues associated with health care information. Students will evaluate security audits, regulatory policies/laws, and release of information procedures.
Summer
HPA - Department of Health Management and Informatics

HIM 6122C. System Analysis and Design
4(3,1) PR: Admission to M.S. in Health Care Informatics or C.I. Analyzing workflow in health care organizations to identify data needs and system elements to support work. Modeling system elements with a variety of traditional and object oriented tools.
Spring
HPA - Department of Health Management and Informatics

HIM 6123C. Project Management in Health Care Informatics
4(3,1) PR: Admission to M.S. in Health Care Informatics or C.I. This course integrates clinical, financial and administrative data to resolve managerial and patient care problems.
Spring
HPA - Department of Health Management and Informatics

HIM 6124C. Health Care Data Architecture and Modeling
4(3,1) PR: HIM 5118C or C.I. The course integrates the key issues and techniques surrounding data architecture, modeling and standards in health care informatics.
Spring
HPA - Department of Health Management and Informatics

HIM 6125. Health Care Informatics Capstone
3(3,0) PR: All courses in the M.S. in Health Care Informatics program. This course serves as a culminating experience for the HCI program. Students will apply knowledge gained in all courses to a health care informatics related area of study.
Spring
HPA - Department of Health Management and Informatics

HIM 6217C. Health Care Database Management
4(3,1) PR: HIM 5118C. Design and implementation of relational database structures for health care operations. Use of structured query language and reporting tools to manage data.
Fall
HPA - Department of Health Management and Informatics

HIM 6267. Foundation of Health Services Administration
1(1,0) PR: Admission to Health Care Informatics or C.I. Provides students with an understanding of the managerial and administrative aspects in a health care environment, as it relates to health care informatics.
Spring
HPA - Department of Health Management and Informatics

HIM 6293. Health Care Coding and Diagnosis
4(3,1) PR: Admission to Health Care Informatics master's degree or HIA certificate. Medical Coding and the role it plays in informatics emphasizing document usage and extracting needed data for proper code selection. Data mapping related to ICD-9-CM and ICD-10-CM is explored.
Fall
HPA - Department of Health Management and Informatics

HIM 6464C. Epidemiology, Analytics and Quality Management
4(3,1) PR: Admission to M.S. in Health Care Informatics or C.I. This course introduces epidemiological principles and analytics for enhancing utilization management, quality improvement and outcome assessment in the service delivery system.
Summer
HPA - Department of Health Management and Informatics

HIM 6477. Medical Terminology for Informatics Professionals
1(1,0) PR: Admission to Heath Care Informatics or C.I. Provides students with medical terminology used or found in the medical environments and discuss the role the language of medicine plays in informatics.
Fall
HPA - Department of Health Management and Informatics

HIM 6935. Seminar on Current Issues in Health Care Informatics and Enterprise Management
2(2,0) PR: HIM 5118C; HIM 6119C; HIM 6122C; HIM 6123C. This course provides an overview of project management and will expose students to the principles of project management and health care information systems.
Summer
HPA - Department of Health Management and Informatics

HIM 6947. Health Care Informatics Internship
3(3,0) PR: HIM 5118C, HIM 6122C and HIM 6123C. Experiential learning course where students apply skills and competencies to solve real-world health care informatics projects of substantive value. Students must complete required hours under the supervision of an internship site preceptor.
Even Spring
HPA - Department of Health Management and Informatics

HIS 5067. Introduction to Public History
3(3,0) PR: Graduate status or senior standing or C.I. Examine and discuss the practice of history in museums, archives, documentary editing, historical publication, media, historical societies, and government agencies.
Occasional
CAH - Department of History

HIS 5083. Cultural Heritage Management
3(3,0) Graduate standing, HIS 5067, or C.I. Readings in the debates and issues of international management of cultural heritage and property, including introduction to UNESCO standards.

CAH - Department of History

HIS 5088. Readings in Curation & Public History
3(3,0) Graduate standing or C.I. Readings in the theories, principles, methods, and design for publicly engaged history content and visualization.
Even Fall
CAH - Department of History

HIS 5095. Readings in Historic Preservation
3(3,0) HIS 5067 or C.I. Course will expose students to major theoretical conversations in Historic Preservation including law, sustainability, and cultural resource management.
Occasional
CAH - Department of History

HIS 5925. History in the Digital Age
3(3,0) Graduate standing or C.I. Readings in the history, theory, and methodologies of digital historical practices from precedents in New Social History to the present, including use in Public History.
Even Fall
CAH - Department of History

HIS 6068. Seminar in Documentary Editing and New Media
3(3,0) Graduate standing or C.I. The theory and practical skills involved in documentary editing and new media.
Occasional
CAH - Department of History

HIS 6094. Seminar in Curation & New Media
3(3,0) Graduate standing or C.I. Historical research and application of the theories, principles, methods, and design for visual public history projects produced through new media installations.
Odd Spring
CAH - Department of History

HIS 6096. Seminar in Historic Preservation
3(3,0) PR: Graduate standing or C.I. Seminar in the theory and work of historic preservation. Research methods, theory, law, and professional standards will be explored through student generated preservation projects.
Occasional
CAH - Department of History

HIS 6159. Historiography
3(3,0) Selected topics in the study of history. May be repeated for credit.
Fall
CAH - Department of History

HIS 6165. Digital Tools for Historians
3(3,0) Graduate standing or C.I. Background, theory, and methods of digital history. Students will develop a working knowledge for evaluating and employing digital tools for historical research and presentation.

CAH - Department of History

HIS 6905. History Capstone Class
3(3,0) PR: Satisfactory completion of 21 - 24 hours of graduate level course work. Advanced historiographical and bibliographical readings for preliminary exams and submission of a research plan for thesis topic. Graded S/U.
Occasional
CAH - Department of History

HIS 6942. Internship
3(3,0) PR: Graduate standing. Graduate internship in public history. Subject may vary. May be used in the degree program a maximum of 2 times.
Occasional
CAH - Department of History

HIS 6946. Teaching Practicum
3(3,0) Student observation, participation, direction, and leadership in a college survey course. May be repeated for credit.
Occasional
CAH - Department of History

HMG 6227. Advanced Training and Development in the Hospitality Industry
3(3,0) PR: Graduate Standing or C.I. This course is designed to give students detailed information on developing, delivering, assessing, and evaluating training and development programs for various segments of the hospitality industry.
Occasional
RCHM - Department of Hospitality Services

HMG 6228. Critical Issues in Hospitality Human Resources
3(3,0) PR: Graduate student status. Analysis of HR critical factors affecting operation and profitability of hospitality enterprises. Examination of emotional labor, empowerment, burnout, service orientation, turnover, absenteeism, compensation.
Fall,Spring
RCHM - Department of Hospitality Services

HMG 6245. Managing Hospitality and Guest Services Organizations
3(3,0) PR: Graduate standing. Analysis of the unique problems of managing organizations in hospitality and guest services industry.
Fall
RCHM - Department of Hospitality Services

HMG 6247. Organizational Communication in Hospitality/Tourism Enterprises
3(3,0) PR: Graduate standing. Developing the ability to view communication as an essential skill for demonstrating the knowledge in the areas of hospitality of guest service management, hospitality marketing, and hospitality finance and accounting.
Occasional
RCHM - Department of Hospitality Services

HMG 6251. The Management of Lodging Operations
3(3,0) PR: Acceptance into the graduate program. Presentation and analysis of the unique management techniques applicable in the diverse segments of the lodging industry.
Fall,Spring
RCHM - Department of Foodservices and Lodging Management

HMG 6267. Case Studies in Restaurant Management
3(3,0) PR: Graduate standing. This elective course will allow students to apply the principles of management, analysis, and planning that they have learned in their prior coursework to issues in multi-unit restaurant operations.
Occasional
RCHM - Department of Foodservices and Lodging Management

HMG 6291. Hospitality Entrepreneurship: Concept Creation to Capitalization
3(3,0) PR: HMG 6477 or C.I. Focus on creating, developing, and designing a unified concept plan, business plan, and investment proposal for a new hospitality business enterprise.
Occasional
RCHM - Department of Foodservices and Lodging Management

HMG 6296. Hospitality/Tourism Strategic Issues
3(3,0) PR: Enrollment limited to graduating Hospitality Management graduate students. Capstone experience with strategic decision-making principles in hospitality/tourism. Application of skills, knowledge and understanding of areas of concern for formulating and implementing operational strategies.
Fall,Spring,Summer
RCHM - Department of Hospitality Services

HMG 6319. Convention Center Management
3(3,0) PR: Graduate standing. Exploration of the major components of center management, including finance, legal issues, facilities operation, marketing, event logistics and working with suppliers and vendors.
Occasional
RCHM - Department of Tourism Event and Attractions

HMG 6347. Advanced Vacation Ownership Resort Planning
3(3,0) PR: Graduate standing. In-depth study of the tools and techniques available for project feasibility and investment.
Occasional
RCHM - Department of Foodservices and Lodging Management

HMG 6446. Hospitality/Tourism Information Technology
3(3,0) PR: Graduate student status. Analysis and design of hospitality/tourism industry information systems. Data management, system implementation and current trends in hospitality/tourism technology are discussed.
Occasional
RCHM - Department of Hospitality Services

HMG 6466. Applied Revenue Management Techniques in Hospitality
3(3,0) Graduate standing or C.I. Builds upon revenue management fundamentals in hospitality and tourism organizations to develop advanced revenue management techniques in optimization, customer segmentation, forecasting and pricing analytics.
Odd Spring
RCHM - Dean's Office - RCHM

HMG 6476. Feasibility Studies for the Hospitality/Tourism Enterprises
3(3,0) PR: Graduate standing. Exploration of the many and varied facets of the economic decision making process as it applies to hospitality projects. Components of a financial feasibility study are analyzed as an aid to the decision making process of an investment in the hospitality industry.
Occasional
RCHM - Department of Hospitality Services

HMG 6477. Financial Analysis of Hospitality Enterprises
3(3,0) PR: Graduate standing. Specialized accounting and finance tools of analysis as related to the hospitality industry. Application of budgeting and pricing models, break-even analysis and internal control.
Occasional
RCHM - Department of Hospitality Services

HMG 6528. Convention and Conference Sales and Services
3(3,0) PR: Graduate standing. A process-oriented approach to selling to the convention/conference market and servicing their events. Analyzes the differences between and among venues and markets.
Occasional
RCHM - Department of Tourism Event and Attractions

HMG 6529. Vacation Ownership Resort Sales Management
3(3,0) PR: Graduate standing. Application and analysis of competitive sales management strategies via the use of critical thinking models, decision-making simulations, and field operation procedures commonly used to manage the sales process.
Occasional
RCHM - Department of Foodservices and Lodging Management

HMG 6533. Hospitality/Tourism Industry Brand Management
3(3,0) PR: Graduate standing. This elective course will introduce graduate students to critical topics, both theoretical and applied, that demonstrate why brands are important to consumers of hospitality and tourism services and, consequently, for the successful management of hospitality and tourism corporations.
Occasional
RCHM - Department of Hospitality Services

HMG 6566. Principles of Destination Marketing and Management
3(3,0) PR: HMG 6596. Examines strategies for creating integrated destination marketing and management systems; concepts and strategies for destination competitiveness and sustainability; trends/challenges influencing destination marketing and management.
Occasional
RCHM - Department of Tourism Event and Attractions

HMG 6585. Data Analysis in Hospitality and Tourism Research
3(3,0) Graduate standing in Hospitality Management or C.I. Examination of quantitative methods applied in hospitality and tourism research, including identification of data analysis strategies and interpretation of finds. Emphasis on univariate data analyses.
Fall,Spring
RCHM - Department of Hospitality Services

HMG 6586. Research Methods in Hospitality and Tourism
3(3,0) PR: Graduate standing in Hospitality Management or C.I. A survey of primary research methods used by decision makers in the various sectors of the hospitality and tourism industry. Formulation of research problems, statement of hypotheses, variables and level of measurements, research designs, data collection techniques, sampling, data processing, and information analysis.
Spring
RCHM - Department of Hospitality Services

HMG 6596. Strategic Marketing in Hospitality and Tourism
3(3,0) PR: Graduate standing. An examination of the role of marketing strategy within the overall strategic planning process of hospitality/tourism organizations. Topics such as marketing environments, competition analysis, consumer behavior, product/service mix, differentiation, segmentation, target marketing, positioning, relationship marketing, and strategic alliances are studied and analyzed.
Fall,Spring,Summer
RCHM - Department of Hospitality Services

HMG 6608. Hospitality/Tourism Law and Ethics Seminar
3(3,0) PR: Graduate standing. An interactive approach to the impact of changing social values, current legislation, and case law on management of hospitality and tourism enterprises. Professional Code of Ethics as applied to the hospitality industry are discussed.
Occasional
RCHM - Department of Hospitality Services

HMG 6636. Hospitality/Tourism Risk Management
3(3,0) PR: Graduate standing. Examination of policy and behavioral issues of risk management and hospitality. Focuses on risk management principles most relevant within hospitality and tourism.
Occasional
RCHM - Department of Hospitality Services

HMG 6707. Travel and Tourism Economics
3(3,0) PR: Graduate student status and undergraduate course in micro economics. Examines and evaluates the impact of travel and tourism on the local, regional, national and international economies.
Occasional
RCHM - Department of Tourism Event and Attractions

HMG 6710. International Tourism Management
3(3,0) PR: Graduate standing. A review and critical analysis of the issues and techniques of international tourism management with specific attention to the economic, sociocultural, and environmental impacts.
Fall
RCHM - Department of Tourism Event and Attractions

HMG 6738. Tourism Industry Analysis
3(3,0) PR: Graduate standing. Quantitative impact analysis of tourism as an industry in the regional/national economy along the Tourism Satellite Accounts concept.
Occasional
RCHM - Department of Tourism Event and Attractions

HMG 6756. Mega-Events
3(3,0) PR: HMG 6797. The organization and administration of mega-events. The tourism impacts of the events on the destinations that host them.
Occasional
RCHM - Department of Tourism Event and Attractions

HMG 6797. Event Administration
3(3,0) PR: Graduate standing. Examination of event management, focusing on sports and entertainment. Covers promotion, budgeting, marketing, crowd control, production, legal issues, customer service, ticketing and concessions.
Occasional
RCHM - Department of Tourism Event and Attractions

HMG 7258. Strategies and Tactics: Lodging
3(3,0) PR: Admission to the Hospitality Education track to the PhD in Education. Extensive review of the theoretical and empirical literature related to current strategies and operations of lodging enterprises throughout the world.
Occasional
RCHM - Department of Foodservices and Lodging Management

HMG 7295. Theories in Hospitality and Tourism
3(3,0) Doctoral standing. Theory construction in hosp, tourism and service; identification of relevant interdisciplinary paradigms in theory development; evaluation of theory and research models in social science research.
Fall
RCHM - Department of Tourism Event and Attractions

HMG 7546. Strategies and Tactics: Guest Service Management
3(3,0) PR: Admission to the Hospitality Education track to the PhD in Education. Comprehensive review of the theory, methods, and research findings related to the management of guest service organizations, with special emphasis on hospitality and tourism enterprises.
Occasional
RCHM - Department of Hospitality Services

HMG 7587. Foundations in Hospitality and Tourism Research
3(3,0) PR: Admission to the Ph.D. Education Hospitality Education track, C.I. Facilitates the introduction of hospitality and tourism research across a broad expanse of industry sectors including but not limited to attractions, events, leisure, foodservice and lodging.
Odd Fall
RCHM - Department of Tourism Event and Attractions

HMG 7588. Research Seminar in Hospitality and Tourism
1(1,0) PR: Admission to the Ph.D. Education Hospitality Education track, C.I. This course includes the presentation of, exposure to and professional critique of current research projects by students.
Even Fall
RCHM - Department of Hospitality Services

HMG 7589. Advanced Research Methods in Hospitality and Tourism
3(3,0) PR: EDF 7403, EDF 7463, C.I. Facilitates creating, developing, and solving research problems through the application of appropriate research methods to contemporary issues in the hospitality and tourism industry.
Odd Fall
RCHM - Department of Hospitality Services

HMG 7715. Strategies and Tactics: Travel and Tourism
3(3,0) PR: Admission to the Hospitality Education track to the PhD in Education. An in-depth investigation of the various components of travel and tourism focusing on the role of policy in their operation and development.
Occasional
RCHM - Department of Tourism Event and Attractions

HMG 7876. Strategies and Tactics: Foodservice
3(3,0) PR: Admission to the Hospitality Education track to the PhD in Education. Extensive review of the theoretical and empirical literature related to current strategies and operations of food service enterprises throughout the world.
Occasional
RCHM - Department of Foodservices and Lodging Management

HSA 5177. Foundations of Health Care Finance
3(3,0) PR: Admission to graduate program in HSA or C.I. Preparatory course for graduate students who are not prepared to take the required health care finance course.
Occasional
HPA - Department of Health Management and Informatics

HSA 5198. Health Care Decision Sciences and Knowledge Management
3(3,0) Graduate standing. Emphasis on development of a general systematic approach to solving problems under uncertainty. The role of informatics and application of information technology in improving managerial decision making process will be presented.
Spring
HPA - Department of Health Management and Informatics

HSA 5436. Foundations of Health Care Economics
3(3,0) PR: Admission to HSA graduate program or C.I. Preparatory course for graduate students who are not prepared to take the required health care economics course.
Fall
HPA - Department of Health Management and Informatics

HSA 5504. Health Care Risk Management II
3(3,0) HSA 5509. The Health Care Risk Management course is comprised of a total of 12 modules addressing key areas of the field. Health Care Risk Management I covers Modules 1-6 and Health Care Risk Management II covers Modules 7-12. Students must complete both courses in sequential order in order to apply for Risk Management licensure.
Fall,Spring,Summer
HPA - Department of Health Management and Informatics

HSA 5509. Health Care Risk Management I
3(3,0) PR: Admission to M.S. in Health Services Administration or C.I. Examines background, history and philosophy of health care risk management. The Health Care Risk Management course is comprised of a total of 12 modules addressing key areas of the field. Health Care Risk Management I covers Modules 1-6 and Health Care Risk Management II covers Modules 7-12. Students must complete both courses in sequential order in order to apply for Risk Management licensure.
Fall,Spring,Summer
HPA - Department of Health Management and Informatics

HSA 6108. Health Care Organization and Management II
3(3,0) PR: HSA 6119, HSC 6636 and PHC 6160. Emphasis on planning, development, marketing approaches, and problem solving using computer methods.
Fall,Summer
HPA - Department of Health Management and Informatics

HSA 6112. International Health Systems
3(3,0) PR: Graduate status. Survey of health care systems in developed and developing countries.
Occasional
HPA - Department of Health Management and Informatics

HSA 6119. Health Care Organization and Management
3(3,0) PR: Admission to Health Services Administration master's program. Planning, development, and marketing methods.
Spring
HPA - Department of Health Management and Informatics

HSA 6128. Health Care Services Management
3(3,0) PR: Admission to the Health Services Administration graduate program or C.I. Broad perspective on conceptualization and development of marketing and customer service in health care organizations focusing on links between theory and practical applications. State-of-the-art methods from best customer service organizations will be reviewed along with impact of social media and mobile technologies on marketing.
Spring
HPA - Department of Health Management and Informatics

HSA 6155. Health Economics and Policy
3(3,0) PR: HSA 5436 or passing grade on Economic Assessment Exam or C.I. Examines how the interests and interactions of patients, providers, insurers, the government, and others impact the allocation and distribution of health care.
Spring
HPA - Department of Health Management and Informatics

HSA 6156. Health Care Economics and Policy
4(4,0) PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Study of the economic foundations of the health care market and policy.
Fall
HPA - Department of Health Management and Informatics

HSA 6175. Advanced Trends in Health Care Finance and Management
4(3,1) Admission to the Health Care Informatics master's degree or HIA certificate. Focus on areas related to overall strategy of the health care organization including decision making practices; infrastructure investment; business partnerships; management staff competencies; and financial report analysis.
Summer
HPA - Department of Health Management and Informatics

HSA 6178. Financial Management for Health Care Managers
4(4,0) PR: Admission to Health Sciences M.S., Executive Health Services Administration track; HSA 6179. Application and integration of advanced accounting and financial principles to develop solutions to specific problems encountered in today's health care organizations.
Summer
HPA - Department of Health Management and Informatics

HSA 6179. Financial Accounting for Health Care Managers
4(4,0) PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Examines accounting and financial management concepts, along with managerial protocols and regulatory constraints affecting health care organizations.
Spring
HPA - Department of Health Management and Informatics

HSA 6188. Health Care Capstone and Strategic Management
4(4,0) PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Concepts and course work through the lens of strategic management.
Odd Summer
HPA - Department of Health Management and Informatics

HSA 6189. Health Care Procedural Coding and Reimbursement
4(3,1) Admission to Health Care Informatics master's degree or HIA certificate. Introduction and analysis of reimbursement systems. Focus on Current Procedural Terminology (CPT) code selection and audit tools; reimbursement methodologies; and revenue cycle management.
Spring
HPA - Department of Health Management and Informatics

HSA 6195. Management and Health Information Systems
3(3,0) PR: Admission to Health Services Administration graduate program or C.I. This course is designed to introduce students to health care information systems and current issues related to effective management of these systems and health data. Specifically, students will gain insight into clinical information systems, their implementation, and the overall importance of aligning these systems with organizational goals.
Spring
HPA - Department of Health Management and Informatics

HSA 6197C. Health Care Informatics for Health Care Leaders
4(3,1) PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Alignment of health information technology advances with the organizational strategy, including improving quality, safety and efficiency.
Fall
HPA - Department of Health Management and Informatics

HSA 6342. Health Care Human Resources
3(3,0) PR: Admission to the Health Services Administration graduate program or C.I. Study of health care organizations, including modern management, human performances, and leadership.
Fall
HPA - Department of Health Management and Informatics

HSA 6345. Leadership for Health Care Executives
4(4,0) PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Addresses current leadership theory focusing on leadership styles, motivation, change management, innovation, and creativity as they relate to management of health services organizations.
Fall
HPA - Department of Health Management and Informatics

HSA 6346. Health Care Organizational Behavior and Human Resource Management
4(4,0) PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Application of human resources and organizational theory in the health care setting for health care managers.
Odd Spring
HPA - Department of Health Management and Informatics

HSA 6385. Health Care Quality Management
3(3,0) PR: Admission to the Health Services Administration graduate program or C.I. Mechanisms of enhancing quality of service and care.
Summer
HPA - Department of Health Management and Informatics

HSA 6505. Health Care Quality and Risk Management
4(4,0) PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Current quality-based management practices within health care organizations and effective risk management strategies for health care managers.
Summer
HPA - Department of Health Management and Informatics

HSA 6512. Health Care Leadership
3(3,0) PR: Graduate status or C.I. Practical applications of leadership theory in health services organizations.
Occasional
HPA - Department of Health Management and Informatics

HSA 6520. Epidemiology and Health Planning
4(4,0) PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Descriptive and applied methods of managerial epidemiology, including methods for data retrieval and research application.
Odd Spring
HPA - Department of Health Management and Informatics

HSA 6536. Health and Medical Terminology for Health Administrators
3(3,0) PR: Admission to Health Services Administration graduate program or C.I. Designed to introduce students to the language of medicine and its application for health administrators using the Caduceus Medical Terminology software system.
Spring
HPA - Department of Health Management and Informatics

HSA 6555. Health Care Ethics and Law
4(4,0) PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Overview of legal and ethical issues facing health care managers and providers in a variety of health care settings.
Odd Spring
HPA - Department of Health Management and Informatics

HSA 6752. Health Care Analytics
4(3,1) Admission to Health Care Informatics master's degree or HIA certificate. Computer based course focusing on analyzing health care data including using data for decision making, process improvements, efficient health care delivery and preparing reports for other mangers.
Spring
HPA - Department of Health Management and Informatics

HSA 6759. Health Care Outcomes Management
4(3,1) Admission to Health Care Informatics master's degree or HIA certificate. Measure and methods of outcomes assessment and evaluation focusing on regulatory policies; use of data to investigate fraud; organizational compliance programs and health information system compliance.
Fall
HPA - Department of Health Management and Informatics

HSA 6766. Health Care Statistics and Research
4(4,0) PR: Admission to Health Sciences M.S., Executive Health Services Administration track. Research method techniques and statistical techniques for problem-solving and decision-making including theoretical, quantitative, and quantitative skills to understand, conduct, and evaluate health care research.
Fall
HPA - Department of Health Management and Informatics

HSA 6925. Capstone in HSA
3(3,0) PR: HSA 5198, HSA 6108, HSA 6119, HSA 6128, HSA 6342, HSA 6385, HSC 6911, PHC 6164. Case analysis approach to solving current health services administration problems and issues. Prepares students for comprehensive examination experience.
Fall,Spring
HPA - Department of Health Management and Informatics

HSA 6930. Health Care Management, Professional Skills Seminar
3(3,0) PR: Admission to the HSA program or C.I. This seminar serves as a bridge between MSHSA course work and the world of practice, with a focus on developing career planning and professional skills.
Spring
HPA - Department of Health Management and Informatics

HSA 7116. Theories in Healthcare Management
3(3,0) PR: Admission to Public Affairs PhD program or C.I. Overview of healthcare management theories/applications including resource dependence, populations ecology, institutional structure and innovation, network, transaction costs, decision making, power and stakeholder management theories.
Spring
HPA - Department of Health Management and Informatics

HSA 7125. Globalization and Health
3(3,0) Admission to Public Affairs Ph.D. program or C.I. This course examines effects of globalization on health. A large focus is public health and social determinants of health, including poverty, inequality, environment and culture.
Spring
HPA - Department of Health Management and Informatics

HSA 7930. Special Issues in Health Services Administration
3(3,0) PR: Admission to Ph.D. program or C.I. Selected problems in health services administration. May be repeated for credit only when course content is different.
Occasional
HPA - Department of Health Management and Informatics

HSA 7936. Advanced Seminar in Health Economics
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. and Microeconomics or PAF 7315. This advanced seminar in health economics will introduce advanced principles and methods used in economic analysis of health services.
Odd Fall
HPA - Department of Health Management and Informatics

HSA 7938. Advanced Seminar in Health Services Research
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. This is an advanced seminar in health services research. Analytical design and methods used in health services research will be applied.
Odd Spring
HPA - Department of Health Management and Informatics

HSC 6570. Clinical Nutrition
3(3,0) PR: Admission to Health Sciences M.S. Clinical and Lifestyle Sciences track or C.I. The role of nutrition in promoting health and wellness: principles and best practices of nutrition therapy in management of chronic diseases of public health concern.
Spring
HPA - Department of Health Professions

HSC 6597. Human and Applied Metabolism
3(3,0) PR: Admission to Health Sciences M.S. Clinical and Lifestyle Sciences track or C.I. The contribution of carbohydrate, fat and protein to energy metabolism at rest and during physical stress will be examined.
Fall
HPA - Department of Health Professions

HSC 6607. Lifestyle Medicine
3(3,0) PR: Admission to Health Sciences M.S. Clinical and Lifestyle Sciences track or C.I. This class will use scientific evidence to provide studies with the most up-to-date information on successful strategies for preventing and treating numerous chronic diseases, stress and addiction.
Fall
HPA - Department of Health Professions

HSC 6616. Clinical Exercise Physiology
3(3,0) PR: Admission to Health Sciences M.S. Clinical and Lifestyle Sciences track or C.I. This course is designed to give the student an understanding of the graded exercise test as a functional and diagnostic modality in normal and diseased people.
Spring
HPA - Department of Health Professions

HSC 6636. Issues and Trends in the Health Professions
3(3,0) Exploration of current status, issues, problems, and future trends in the practice and education of health professions
Fall,Spring,Summer
HPA - Department of Health Professions

HSC 6656. Healthcare Ethics
3(3,0) PR: Graduate standing or C.I. Examine and analyze central concepts and values in healthcare ethics in order to provide a foundation for sound ethical decision-making.

HPA - Department of Health Professions

HSC 6659. Issues in Geriatric Health Care
3(3,0) Identification of the health care needs of the elderly and the services required to meet them. Analysis of the current issues, problems, and trends in geriatric health
Occasional
HPA - Department of Health Professions

HSC 6911. Scientific Inquiry in the Health Profession
3(3,0) Graduate standing. Research design and statistical evaluation in health professions.
Fall
HPA - Department of Health Management and Informatics

HUM 5396. Place and Space
3(3,0) Graduate standing or C.I. Study of theoretical and applied issues of place and space.
Occasional
CAH - Department of Philosophy

HUN 5247. Principles of Human Nutrition
3(3,0) PR: Admission to Health Sciences M.S. Clinical and Lifestyle Sciences track or C.I. Course promotes in-depth understanding of the role of macronutrients in human nutrition and health enabling graduates to integrate knowledge into other aspects of their work.
Occasional
HPA - Department of Health Professions

IDC 5602. Cybersecurity: A Multidisciplinary Approach
3(3,0) Graduate standing or C.I. Interdisciplinary M&S fundamentals as applied to cybersecurity including operating system installation and administration for hardware, network architectures, configurations, behavioral aspects, organizational continuity planning, security management.
Fall
GRDST - Interdisciplinary Grad

IDC 6600. Emerging Cyber Issues
1(1,0) Graduate standing or C.I. Interdisciplinary discussion of emerging issues with expert speakers from industry. Preparation of topic and required resources to complete a multi-disciplinary Modeling & Simulation capstone project.
Summer
GRDST - Interdisciplinary Grad

IDC 6601. Behavioral Aspects of Cybersecurity
3(3,0) IDS 5602 or C.I. Interdisciplinary human, social, and behavioral issues related to cybersecurity. Management techniques, motives for cyber crimes, risk and threat analysis, ethics, and legal issues.
Spring
GRDST - Interdisciplinary Grad

IDC 6700. Interdisciplinary Approach to Data Visualization
3(3,0) ESI 5219, STA 5206, or DIG 5876, or C.I. A hands-on, interdisciplinary perspective on basic principles and fundamentals of visualizing statistical information. Topics include: effective visualizations, perception, representation, and general principles.
Spring
GRDST - Interdisciplinary Grad

IDS 5127. Foundation of Bio-Imaging Science
3(3,0) PR: Graduate standing. Fundamental theory, design, and practice of modern bio-imaging techniques used for basic biomedical research applications.

COM - Department of Molecular and Microbiology

IDS 5142. Modeling and Simulation for Instructional Design
3(3,0) Graduate standing or C.I. Interdisciplinary aspects of M&S applications for instructional design. Emphasis on domains such as aviation, space, military, healthcare, education, hospitality, entertainment, and cybersecurity.
Summer
GRDST - Interdisciplinary Grad

IDS 6126. Interdisciplinarity
3(3,0) PR: Graduate standing or C.I. This course examines the history and challenges of interdisciplinary teaching and scholarship. We start by posing the question, ❖What is a discipline?❖ Then we will explore various interdisciplinary approaches and scholarship. Our final goal is for each student to present an interdisciplinary research proposal that will guide their work on their Interdisciplinary Studies MA or MS thesis.
Fall,Spring
GRDST - Interdisciplinary Grad

IDS 6145. Simulation Techniques
3(3,0) PR: DIG 5876 or ESI 5219 or STA 5205 or C.I. Foundations, examples, hands-on tools to implement solutions to various problems using three different categories of simulation: discrete event simulation, continuous simulation, and agent-based simulation.
Spring
GRDST - Interdisciplinary Grad

IDS 6146. Modeling and Simulation Systems
3(3,0) PR: Graduate standing or C.I. An overview of issues, techniques and tools that impact the design, development, verification, and validation of simulation systems.
Summer
GRDST - Interdisciplinary Grad

IDS 6147. Perspectives on Modeling and Simulation
3(3,0) PR: Graduate standing or C.I. Perspectives on the theory and practice of modeling and simulation with emphasis on specific topics of current interest.
Fall
GRDST - Interdisciplinary Grad

IDS 6148. Human Systems Integration for Modeling and Simulation
3(3,0) PR: Graduate standing or C.I. Covers general process of the human systems integration approach for modeling and simulation systems. Addresses standards, analysis tools and techniques for developing systems-level solutions.
Summer
GRDST - Interdisciplinary Grad

IDS 6149. Modeling and Simulation for Test and Evaluation
3(3,0) PR: Graduate standing and C.I. Modeling and simulation for test planning, execution, and evaluation will be described, characterized, and illustrated with real-world examples and case studies.
Fall
GRDST - Interdisciplinary Grad

IDS 6209. Introduction to Electrochemical Energy Conversion and Storage
3(3,0) PR: Admission to the PSM or MS in Nanotechnology or C.I. Topics in nanotechnology, materials science and electrochemistry concerning renewable energy generation and storage. Electrochemical systems and their applications in renewable energy generation and storage.
Fall
GRDST - Interdisciplinary Grad

IDS 6250. Introduction to Nanoscience and Nanotechnology
3(3,0) Admission to the Professional Science Master's in Nanotechnology or C.I. A general overview of nanomaterials and nanodevices, including their synthesis, new properties and applications.
Fall
GRDST - Interdisciplinary Grad

IDS 6251. Computation, Simulation and Modeling in Nanotechnology
3(3,0) Admission to the Professional Science Master's in Nanotechnology and background in chemistry and computer science, or C.I. Modeling methods and computational approaches applicable to nanotechnology problems.
Spring
GRDST - Interdisciplinary Grad

IDS 6252. Biomedical Nanotechnology
3(3,0) Admission to the Professional Science Master's in Nanotechnology and IDS 6250, UG General and Organic Chemistry, or C.I. Synthesis and properties of nanomaterials related to biomedical applications, nanotechnology for in vitro and in vivo diagnostics, and therapeutics.
Spring
GRDST - Interdisciplinary Grad

IDS 6253. Bioanalytical Technology
3(3,0) Admission to the Professional Science Master's in Nanotechnology and IDS 6250, or C.I. Analytical technologies and products for biomolecular detection and analysis, nanotechnology-based medical diagnostics.
Fall
GRDST - Interdisciplinary Grad

IDS 6254. Nanofabrication and Characterization
3(3,0) Admission to the Professional Science Master's in Nanotechnology and IDS 6250, or C.I. Techniques for fabrication and characterization of nanoscale materials, nanoelectronics and devices.
Spring
GRDST - Interdisciplinary Grad

IDS 6255. Nanotechnology in Energy and Sustainability
3(3,0) Admission to the Professional Science Master's in Nanotechnology or C.I. Energy generation and storage, sustainability of materials and device fabrication and deployment, application of nanotechnology in improving the device efficiency in energy generation and storage.
Fall
GRDST - Interdisciplinary Grad

IDS 6256. Principles of Nanostructure Quantum Well, Wires, and Dots
3(3,0) Admission to the PSM or MS in Nanotechnology and Intro Nanosci Nanotech, or C.I. Introduction to low dimensional semiconductor devices based on quantum wells, dots and wires; approximate and numerical device modeling.
Spring
GRDST - Interdisciplinary Grad

IDS 6257. Principles and Techniques of Nanobiology
3(3,0) Admission to the Nanotechnology PSM or MS program, or C.I. This course aims to integrate multi-disciplinary approaches covering physics, biology, and nanoscience to understand how living system works at the nanoscale.
Spring
GRDST - Interdisciplinary Grad

IDS 6258. Advanced Materials and Nanotechnology for Rechargeable Batteries
3(3,0) Admission to the PSM in Nanotechnology and IDS 6250, or C.I. Build a bridge between nanomaterials and electrochemical energy storage performance and demonstrate renewable energy storage on the nanoscale.
Spring
GRDST - Interdisciplinary Grad

IDS 6259. Advanced Energy-Efficient Nanoelectronic Devices
3(3,0) PR: Admission to the PSM or MS in Nanotechnology or C.I. Discusses low power nanoelectronic devices that can meet the need of future electronics by using novel physical mechanisms of current conduction.

GRDST - Interdisciplinary Grad

IDS 6260. Properties of Materials at Nanoscale
3(3,0) PR: Admission to the PSM or MS in Nanotechnology or C.I. Aims to integrate multidisciplinary approaches covering materials science and nanosciences to understand how intrinsic properties of materials are governed by their structural variations at nanoscales.
Spring
GRDST - Interdisciplinary Grad

IDS 6261. Nanotechnology for Sustainable Agriculture
3(3,0) PR: Admission to the PSM or MS in Nanotechnology or C.I. Prepares a new generation of STEM students who are equipped with necessary knowledge to adapt sustainable agricultural practices.
Fall
GRDST - Interdisciplinary Grad

IDS 6262. Research Design for Modeling and Simulation
3(3,0) PR or CR: IDS 6148; PR: IDS 6XXX Simulation Techniques Theoretical and practical aspects of interdisciplinary research methodologies as they relate to human-centered Modeling and Simulation.
Fall
GRDST - Interdisciplinary Grad

IDS 6264. Biointerfaces Enabled by Micro/NanoFabrication
3(3,0) PR: Admission to the PSM or MS in Nanotechnology or C.I. Introduces students to the interfaces and devices in the biotechnology and biomedical arenas that are enabled by Micro/NanoFabrication.
Spring
GRDST - Interdisciplinary Grad

IDS 6308. Ways of Knowing
3(3,0) Graduate standing or C.I. Theoretical models of knowledge as exemplified by various disciplines and interdisciplinary activity. Focus on epistemological issues raised in past and present works.
Even Spring
GRDST - Interdisciplinary Grad

IDS 6351. Critical Thinking and Writing
3(3,0) PR: IDS 6308 and IDS 6669. Focus on refining critical understanding of interdisciplinary research and organization and presentation of interdisciplinary ideas, building on first two core courses
Fall
GRDST - Interdisciplinary Grad

IDS 6503. International Trends in Instructional Systems
3(3,0) PR: EME 6613. International and multicultural issues and how they affect the global impact of technology in education, training, and quality management.
Summer
ED - Department of Educational and Human Sciences

IDS 6504. Adult Learning
3(3,0) PR: Graduate standing. An examination of theory and research on adult learning with emphasis on practical applications, instruction, and technology use in educational and workplace settings.
Fall
ED - School of Teaching, Learning, and Leadership

IDS 6515. Classroom Management for Mathematics and Science Teachers
3(3,0) PR: Graduate standing or C.I. Teacher candidates will engage in critical examination of current school and classroom organization and management models, methods, and strategies in middle school. Causes and solutions to disruptive and noncompliant behaviors will be discussed.
Even Fall
ED - School of Teaching, Learning, and Leadership

IDS 6516. Leadership Development for Mathematics and Science Teachers
3(3,0) PR: Graduate standing or C.I. Development of mathematics and science teachers' abilities to assume teacher leadership roles in their schools.
Even Spring
ED - School of Teaching, Learning, and Leadership

IDS 6694. Experimental Design & Analysis in Biomedical Sciences
2(2,0) PR: Graduate standing in biomedical sciences or C.I. Problem based learning graduate course focused on how to effectively design experiments and analyze data for hypothesis-driven research in biomedical sciences. Graded S/U.
Spring
COM - Department of Molecular and Microbiology

IDS 6910. Research in Mathematics and Science Education
3(3,0) PR: Graduate standing or C.I. Support provided for graduate students in mathematics and science education as they plan and/or implement research projects.
Even Fall
ED - School of Teaching, Learning, and Leadership

IDS 6916. Simulation Research Methods and Practicum
3(3,0) PR: DIG 5875C and DIG 5876 or their equivalents. Interdisciplinary teams of students conduct fundamental and applied research on contemporary issues in modeling, simulation, and training.
Occasional
GRDST - Interdisciplinary Grad

IDS 6933. Seminar in Teaching Mathematics and Science
3(3,0) PR: Graduate standing and valid Florida Teaching Certificate or C.I. This course is designed so that graduate students may study specific areas related to curriculum, instruction, and assessment in mathematics and science education. May be repeated for credit.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

IDS 6934. Using Technology in Mathematics and Science
3(2,1) PR: Graduate standing and valid Florida Teaching Certificate or C.I. This course emphasizes the learning and use of technology in the teaching of mathematics and science.
Summer
ED - School of Teaching, Learning, and Leadership

IDS 6937. Teaching Mathematics and Science Using Reform-Based Practices
3(3,0) PR: Graduate standing and valid Florida Teaching Certificate or C.I. Focuses on the work of Dewey and Piaget as it applies to mathematics and science teaching. Emphasizes integrating math and science teaching.
Fall
ED - School of Teaching, Learning, and Leadership

IDS 6939. Reforming Curriculum in Mathematics and Science Education
3(3,0) PR: Graduate standing and valid Florida Teaching Certificate or C.I. Emphasizes the reform movement including technology, history of curriculum, curriculum theory, and standards documents.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

IDS 6950. Modeling and Simulation Capstone Report Planning
1(1,1) Graduate standing. Identify topic and required resources to complete multi-disciplinary Modeling and Simulation capstone project. Develop annotated topical outline for Modeling and Simulation capstone report.
Summer
GRDST - Interdisciplinary Grad

IDS 6953. Urban and Regional Planning Capstone I
3(3,0) Completion of all required Urban and Regional Planning program core courses and concentration electives or consent of Program Director. This Capstone I course synthesizes previous planning coursework through the development of a service learning project proposal.
Even Fall
HPA - School of Public Administration

IDS 6954. Urban and Regional Planning Capstone II
3(3,0) Completion of IDS 6953 - Urban and Regional Planning Capstone I. This Capstone II course implements the service learning project proposal where students collect and analyze data and make planning recommendations.
Odd Spring
HPA - School of Public Administration

IDS 7500. Seminar in Educational Research
1-3(1-3,0) PR: Admission into doctoral program in Education or C.I. An examination of education related research initiatives. May be repeated for credit.
Fall,Spring,Summer
ED - Dean's Office - ED

IDS 7501. Issues and Research in Education
3(3,0) PR: Admission to PhD in Education or C.I. An examination of major issues impacting education and related practical and methodological issues in research.
Odd Fall
ED - Dean's Office - ED

IDS 7502. Case Studies in Research Design
3(3,0) PR: Admission into the PhD in Education. A critical analysis of educational research design.
Summer
ED - Dean's Office - ED

IDS 7657. Professional Collaboration Around Language Issues
3(3,0) PR: Admission to Education Ph.D. program or C.I. Interdisciplinary approach to exploring issues in language and literacy for struggling children and adolescents and development of collaboration competencies in professionals from different disciplines.
Odd Fall
HPA - Dean's Office - HPA

IDS 7690. Frontiers in Biomedical Sciences
1(1,0) PR: Admission to Biomedical Sciences Ph.D. program. Cross-disciplinary biomolecular research seminar, collaboration between chemistry, biology, and molecular biology and microbiology. May be used in the degree program a maximum of 6 times.
Fall,Spring
COM - Department of Molecular and Microbiology

IDS 7691. Structure-Function-Relationships of Biomolecules I
5(5,0) Admission to Biomolecular Sciences PhD program. First semester of a two semester sequence with lectures and literature dicussion of structure-function relationships of action and functions of biomolecules presented from an interdisciplinary perspective.
Occasional
COM - Department of Molecular and Microbiology

IDS 7692L. Experiments in Biomedical Sciences
1-3(0,1-3) PR: Admission to Biomedical Sciences Ph.D. program. Laboratory rotations in one to three research laboratories throughout the first year of the Biomedical Science doctoral program. Graded S/U. May be used in the degree program a maximum of 4 times.
Fall,Spring
COM - Department of Molecular and Microbiology

IDS 7693. Structure-Function-Relationships of Biomolecules II
5(5,0) Admission to PhD in Biomolecular Sciences and IDS 7691. Second semester of a two semester sequence with lectures and literature discussion of structure-function relationships of action and functions of biomolecules presented from an interdisciplinary perspective.
Occasional
COM - Department of Molecular and Microbiology

IDS 7938. Research Cluster Seminar
3(3,0) PR: Admission into the PhD program in Education or C.I. An examination of research issues focusing on interdisciplinary inquiry in education. May be used in the degree program a maximum of 2 times.
Spring,Summer
ED - Dean's Office - ED

INP 5825. Human-computer Interface (HCI) design: A team approach
3(3,0) Graduate status or senior standing or C.I. Interdisciplinary approach to human-computer interface design, including behavior, engineering, computer science, and instructional aspects. Tools and techniques for team development and the evaluation of software for usability.
Occasional
COS - Department of Psychology

INP 6058. Job Analysis and Performance Appraisal
3(3,0) PR: Admission to Industrial Organizational Psychology M.S. or C.I. Theory and practice in collection, analysis, and use of job analysis data; survey of theories, research and practice in the areas of industrial/organizational performance appraisal.
Occasional
COS - Department of Psychology

INP 6072. Survey Research Methods and Program Evaluation in Indust. and Org. Psychology
3(3,0) PR: PSY 6216C and admission to master's program in Industrial and Organizational Psychology or Ph.D. in Psychology or C.I. Applied issues in the evaluation of programs/interventions and survey design, sampling, and data analysis in organizations.
Occasional
COS - Department of Psychology

INP 6080. Ethical, Legal, & Professional Issues in Industrial & Organizational Psychology
3(3,0) PR: Admission to master's program in Industrial and Organizational Psychology, Psychology Ph.D., or C.I. A review of the applied behavioral problems recurrent in the professional practice of Industrial and Organizational Psychology.
Occasional
COS - Department of Psychology

INP 6091. Industrial and Organizational Psychology Consulting Practice
3(3,0) Admission into the M.S. Industrial/Organizational Psychology program. Develop consulting skills in I/O psychology by applying theories and methods to improve individual, group, and organizational effectiveness.
Fall
COS - Department of Psychology

INP 6215. Assessment Centers and Leadership
3(3,0) PR: Graduate admission and C.I. Survey of assessment center technology and application with emphasis on leadership theory and practice.
Occasional
COS - Department of Psychology

INP 6317. Work Motivation and Job Attitudes
3(3,0) PR: Admission to Industrial Organizational Psychology M.S. or Ph.D., or Modeling and Simulation M.S. or Ph.D., or Applied Learning and Instruction M.A., or C.I. Review of theories, research and application of psychological principles to organizational settings, including human motivation and job attitudes.
Occasional
COS - Department of Psychology

INP 6318. Recruitment, Placement and Selection
3(3,0) PR: PSY 6308C and admission to Industrial and Organizational Psychology M.S., or C.I. Issues related to recruiting, placing, and selecting employees and an examination of currently used tests in industry.
Occasional
COS - Department of Psychology

INP 6605. Training and Team Performance
3(3,0) PR: Admission to Industrial Organizational Psychology M.S., Psychology Ph.D., or C.I. Survey and theory of training and small groups including team effectiveness and team performance within applied contexts.
Occasional
COS - Department of Psychology

INP 6933. Seminar in Industrial and Organizational Psychology
3(3,0) PR: Admission to Industrial and Organizational Psychology Master's, Psychology Ph.D., or C.I. Selected topics in industrial and organizational psychology. May be used in the I/O M.S. degree program one time, and may be used in I/O Ph.D. a maximum of 6 times. May be used in the Ph.D. degree program a maximum of 6 times. May be used in the degree program a maximum of 6 times.
Occasional
COS - Department of Psychology

INP 6945C. Industrial Psychology Practicum
3(1,6) Admission to Industrial Organizational Psychology M.S. or C.I. Supervised placement in an applied setting. Graded S/U. May be repeated for credit.
Occasional
COS - Department of Psychology

INP 7071. Research Methods in Industrial and Organizational Psychology
3(3,0) PR: Admission to the doctoral Industrial and Organizational Psychology program and PSY 6216C. A review of research methodology in organizational settings, focusing on hypothesis testing, quasi-experimental designed, non-experimental designs, and sampling procedures.
Occasional
COS - Department of Psychology

INP 7081. Professional Issues in Industrial and Organizational Psychology
3(3,0) PR: Graduate standing in the doctoral program in Industrial Organizational Psychology or C.I. Ethical principles, standards, and laws guiding professional behaviors and psychological practice.

COS - Department of Psychology

INP 7089. Human Factors Professional Issues
3(3,0) PR: Admission to the Human Factors PhD program. Ethical principles of psychologists, code of conduct, grant/proposal writing, publication of research, academic and applied career paths, licensing requirements, and job search/preparation.
Even Spring
COS - Department of Psychology

INP 7214. Industrial Psychology I
3(3,0) PR: Admission to the doctoral Industrial and Organizational Psychology program or C.I. Review of the theoretical and practical issues and the research literature related to criterion development and personnel selection
Odd Spring
COS - Department of Psychology

INP 7251. Industrial Psychology II
3(3,0) PR: Admission to the doctoral Industrial and Organizational Psychology program or C.I. Review of the theoretical and practical issues and the research literature related to retaining, theory and program design/evaluation and performance appraisal/feedback.
Occasional
COS - Department of Psychology

INP 7310. Organizational Psychology I
3(3,0) PR: Admission to the doctoral Industrial and Organizational Psychology program. Review of the theoretical and practical issues and research literature related to work motivation theory, attitude theory, and decision theory.
Fall
COS - Department of Psychology

INP 7311. Organizational Psychology II
3(3,0) PR: Admission to the doctoral Industrial and Organizational Psychology program or C.I. Review of the theoretical and practical issues and research literature related to small group theory and process and organization theory.
Occasional
COS - Department of Psychology

INP 7919. Directed Doctoral Study in Industrial and Organization Psychology
3(3,0) PR: Admission to the doctoral Industrial and Organizational Psychology program. Directed study in areas of organization development theory, career development theory consumer behavior, individual assessment, or other relevant topics in Industrial and Organizational psychology. May be repeated for credit. Graded S/U.
Occasional
COS - Department of Psychology

INR 6007. Seminar in International Politics
3(3,0) PR: Admission to a graduate degree-seeking program or C.I. Introduces the student to the advances in international relations theory and research through a broad sampling of approaches and methods.
Occasional
COS - Department of Political Science

INR 6039. International Political Economy
3(3,0) PR: Graduate standing or post bac status. A survey of major themes, concepts, theories, and methods of international political economy, which also entails policy discussion and applications.
Occasional
COS - Department of Political Science

INR 6062. Peace Studies
3(3,0) PR: Admission to degree-seeking program or C.I. Examines how humans manage conflict, fostering justice and creative development. Surveys both international and domestic conflicts, outlining theories of peace and utilizing various case studies.
Occasional
COS - Department of Political Science

INR 6065. Seminar on War
3(3,0) PR: Admission to degree-seeking program or C.I. Examination of theories and empirical evidence locating the cause of war at the systemic, state, and individual levels of analysis.
Occasional
COS - Department of Political Science

INR 6067. Human Rights and Security
3(3,0) Admission to degree-seeking graduate program or C.I. Analyze international human rights and human security, including issues of human development, gender and environmental security.
Occasional
COS - Department of Political Science

INR 6068. Politics of Civil Wars
3(3,0) Admission to degree-seeking program or C.l. Exploration of the causes, the dynamics of violence, the international aspects, and the resolution of civil wars.

COS - Department of Political Science

INR 6108. Seminar in American Foreign Policy
3(3,0) PR: Admission to a graduate degree-seeking program or C.I. Domestic and international factors influencing the development of selected foreign policy issues.
Occasional
COS - Department of Political Science

INR 6136. Seminar in American Security Policy
3(3,0) PR: Admission to graduate degree seeking program or C.I. Examination of domestic and international factors influencing the development of selected American security policy issues.

COS - Department of Political Science

INR 6137. Terrorism and Politics
3(3,0) Graduate standing or C.I. Examines terrorism, including its strategic logics, contemporary methodologies, political roots, and the problems of counter-terrorism.
Occasional
COS - Department of Political Science

INR 6228. International Politics of the Caspian Sea Region
3(3,0) PR: Degree-seeking graduate standing or C.I. A comprehensive analysis of the political issues of the Caspian region.
Occasional
COS - Department of Political Science

INR 6275. International Politics of the Middle East
3(3,0) PR: Graduate standing or C.I. Analysis of the international relations of the Middle East both among Middle Eastern states, as well as relations with other states, especially the great powers.
Even Fall
COS - Department of Political Science

INR 6339. Strategic Warning Analysis
3(3,0) Graduate standing or C.I. Explores the question of strategic warning within the context of national security with focus upon principles of analysis using examples.
Occasional
COS - Department of Political Science

INR 6346. Politics of International Terrorism
3(3,0) PR: Admission to degree-seeking program or C.I. Analysis of causes of and political responses to international terrorism. Emphasis on political science approaches to analysis of international terrorism.
Occasional
COS - Department of Political Science

INR 6352. Global Environmental Politics
3(3,0) PR: Admission to Political Science MA or C.I. Unique environmental struggles and issues on the international and global levels.
Occasional
COS - Department of Political Science

INR 6356. Environmental Security
3(3,0) PR: Admission to degree-seeking program or C.I. Examination of the relationship between environmental degradation and both national and international security, introducing students to the technical and political debates on global environmental change.
Occasional
COS - Department of Political Science

INR 6365. Seminar on Intelligence
3(3,0) PR: Admission to degree-seeking program or C.I. Examines the organization and functions of the U.S. intelligence community, its interaction with national security policymakers, and the challenges in defining its future role.
Occasional
COS - Department of Political Science

INR 6366. The Intelligence Community
3(3,0) Admission to a graduate program, or C.I. The intelligence community structure in its relationship to foreign policy decision making, consideration of control and reliability questions, and issues of cooperation and coordination.
Occasional
COS - Department of Political Science

INR 6405. International Environmental Law
3(3,0) Graduate standing. Examination of the international treaty regime governing the global environment, including biodiversity, the atmosphere, the ocean, and hazardous waste.
Occasional
COS - Department of Political Science

INR 6507. International Organization
3(3,0) Graduate standing or C.I. A survey of the theories, structures, issues, and agents of international organization, focusing on the effects of regional and global governance on state behavior.
Occasional
COS - Department of Political Science

INR 6716. Politics of International Trade Policy
3(3,0) Graduate standing or C.I. A survey of the theories and agents of international trade policy-making at the sub-national, nation-state, regional, and global levels.
Occasional
COS - Department of Political Science

INR 6726. Political Behavior in International Conflict
3(3,0) PR: Graduate standing or C.I. Analysis of the ways in which cognitive and emotional theories of human behavior have been used to explain conflict between nation-state and other non-state actors.
Occasional
COS - Department of Political Science

INR 7139. Issues in Domestic Security
3(3,0) PR: Admission to Security Studies Ph.D. or C.I. Examination of national issues such as domestic terrorism, with a particular emphasis on challenges arising at the state level.
Even Fall
COS - Department of Political Science

INR 7337. Issues in International Security
3(3,0) PR: Admission to Security Studies Ph.D. or C.I. Overview of international issues such as terrorism, genocide, nuclear proliferation, war, the spread of infectious diseases, fragile and failing states, transnational organized crime and gender.
Even Spring
COS - Department of Political Science

INR 7687. Theoretical Approaches to Security Studies
3(3,0) PR: Admission to Security Studies Ph.D. or C.I. Survey of realist, liberal, constructivist, critical and other theories of international security.
Even Fall
COS - Department of Political Science

ISC 6146. Environmental Education for Educators
3(2,1) PR: Graduate standing and a valid Florida Teaching Certificate or C.I. Emphasizes the importance of environmental education in the school curriculum. Includes facilitator training in national environmental education programs.
Summer
ED - School of Teaching, Learning, and Leadership

ISC 6416. History of Physical Science and Cultural Connections
1(1,0) PR: Graduate standing, C.I. This course is designed for graduate students in science who wish to know something about the "who, how, why, when and where " of physics.
Spring
OPT - Department of Optics

LAE 5195. CFWP Teacher Consultant
3(3,0) C.I. This course is designed for Fellows of the CFWP Summer Institute who will plan, practice, and present writing inservice components to public schools.

ED - School of Teaching, Learning, and Leadership

LAE 5295. Writing Workshop
1-3(1-3,0) PR: C.I. Students will engage in exploration and practice of effective writing strategies. (May be repeated up to 3 semester hours.) May be repeated for credit.
Summer
ED - School of Teaching, Learning, and Leadership

LAE 5319. Methods of Elementary School Language Arts
3(3,0) PR: Graduate standing. Principles, procedures, organization and current practices in reading, writing, listening, and talking.
Fall,Summer
ED - School of Teaching, Learning, and Leadership

LAE 5337. Literacy Strategies for Middle and Secondary Teaching
3(3,0) PR: EDG 6415 or C.I. Designed to assist teachers and graduate students in understanding the adolescent learner. This course will examine theory, strategies, research, resources and implementation options for effective middle and secondary literacy programs.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

LAE 5338. Teaching Writing in Middle and High School
3(3,0) PR: EDG 6415 or C.I. Techniques and methods in teaching dialects, semantics, and the various grammars within the context of writing.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

LAE 5346. Methods of Teaching English Language Arts
3(3,0) PR: EDG 6415 and TSL 5085 or CI or admission to Initial Teacher Professional Preparation certificate. Designed for alternative certification and Masters of Arts students to explore the strands, methods and materials related to school curriculum in teaching English.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

LAE 5369. Literacy Strategies in a Digital Age for Middle and High School
3(3,0) Admission to graduate program or C.I. Designed to assist teachers in understanding and presenting information using digital literacies, technological innovations, language arts skills and multicultural models of instruction for secondary education.
Spring,Summer
ED - School of Teaching, Learning, and Leadership

LAE 5415. Children's Literature in Elementary Education
3(3,0) Survey of children's literature: criteria for selection according to literary elements and child development needs. Methods for presenting to children; integrating literature with elementary curricula.
Spring,Summer
ED - School of Teaching, Learning, and Leadership

LAE 5465. Literature for Adolescents
3(3,0) PR: Senior standing or C.I. Selecting and evaluating books for adolescents with emphasis on the use of literature in the development of young people.
Spring,Summer
ED - School of Teaching, Learning, and Leadership

LAE 5495. Assessing Writing
3(3,0) PR: C.I. Students will explore a variety of strategies for assessing students' writing including holistic scoring, primary trait scoring, and portfolio assessment.
Spring
ED - School of Teaching, Learning, and Leadership

LAE 5496. Disciplinary Literacy in the Content Areas
3(3,0) Graduate standing. Designed to assist in understanding the advolsecent reader and writer, this course will examine theory, strategies, resources, and implementation options of disciplinary literacy specifically in the content areas (Mathematics, Science, Social Studies, and other content areas).
Spring,Summer
ED - School of Teaching, Learning, and Leadership

LAE 6296. Advanced Writing Workshop
1-3(1-3,0) PR: LAE 5295 or C.I. Designed for teachers who have completed a previous writing workshop course. Includes history, theory, research, and strategies for teaching writing. (Course may be repeated up to 3 semester hours.) Course May be repeated for credit.
Summer
ED - School of Teaching, Learning, and Leadership

LAE 6366. Advanced Studies in Adolescent Literature
3(3,0) PR: LAE 4464 or LAE 5465. Analysis of major works in genre, examination of criticism, instructional strategies, and research in teaching adolescent literature.
Fall,Summer
ED - School of Teaching, Learning, and Leadership

LAE 6417. Investigation in Children's Literature
3(3,0) PR: A previous survey course in children?s literature. Learning through the utilization of children►s literature, literature analysis and evaluation, storytelling, visual and reference materials.
Spring
ED - School of Teaching, Learning, and Leadership

LAE 6616. Trends in Language Arts Education
3(3,0) PR: Basic Teacher Certificate or C.I. Historical development and trends; English usage systems; materials; instructional strategies.
Fall
ED - School of Teaching, Learning, and Leadership

LAE 6637. Research in Teaching English
3(3,0) Examination and interpretation of major research in English education. Design of models for research in language instruction in secondary schools.
Spring
ED - School of Teaching, Learning, and Leadership

LAE 6792. Teacher Researcher
3(3,0) PR: C.I. Theory, strategies, and research methodologies for teachers studying teaching and learning in classrooms.
Fall
ED - School of Teaching, Learning, and Leadership

LAE 6936. Seminar in Language Arts Education
3(3,0) PR: Graduate standing or C.I. Provides classroom teachers with opportunities to conduct in-depth explorations of timely topics related to teaching language and literacy.
Summer
ED - School of Teaching, Learning, and Leadership

LAH 5920. Colloquium in Latin American History
3(3,0) PR: Graduate standing or C.I. Examines the major themes and historiography of recent works on Latin American history. May be used in the degree program a maximum of 2 times only when course content is different.
Occasional
CAH - Department of History

LAH 6936. Seminar in Latin American History
3(3,0) Graduate standing or C.I. Research seminar in selected topics in Latin American history. May be repeated for credit only when course content is different.
Occasional
CAH - Department of History

LEI 6443. Recreation
3(2,1) A comprehensive study of public, private, and school recreation programs.

ED - School of Teaching, Learning, and Leadership

LIN 5137. Linguistics
3(3,0) PR: Graduate status or senior standing or C.I. Modern linguistic theories and studies focusing on language acquisition and development, contemporary American English, semantics, and para-linguistics.
Occasional
CAH - Department of English

LIN 5675. English Grammar and Usage
3(3,0) PR: Graduate status or senior standing or C.I. An overview of modern grammar, including structural, transformational and rhetorical grammar, along with an examination of controversial usage.
Occasional
CAH - Department of English

LIN 6932. Problems in Linguistics
3(3,0) LIN 5137. Study of the application of linguistics to various aspects of teaching and communication.
Occasional
CAH - Department of English

LIT 6039. Studies in Contemporary Poetry
3(3,0) PR: Graduate standing in MFA Creative Writing program or C.I. English language poetry from 1945 to the present. Emphasis on American poets, but others such as English or Australian will be included. May be used in the degree program a maximum of 2 times.
Occasional
CAH - Department of English

LIT 6076. Studies in Contemporary Nonfiction
3(3,0) PR: Admission to the Creative Writing MFA Program or C.I. based on submission of manuscript. Comprehensive study of nonfiction, including memoir, personal essay, literary journalism, and/or nature writing, with special emphasis on craft. May be used in the degree program a maximum of 2 times.
Occasional
CAH - Department of English

LIT 6097. Studies in Contemporary Fiction
3(3,0) PR: Graduate standing in MFA in Creative Writing program or C.I. Fiction in the last 20 years in the United States and Britain. May be used in the degree program a maximum of 2 times.
Occasional
CAH - Department of English

LIT 6216. Issues in Literary Study
3(3,0) PR: Graduate standing in English or C.I. Specific issues and controversies in literary study. May be used in the degree program a maximum of 4 times only when course content is different.
Occasional
CAH - Department of English

LIT 6276. Teaching College Literature
3(3,0) PR: Graduate standing in English or C.I. Pedagogical theory and practical techniques for teaching literature in college and university settings.
Occasional
CAH - Department of English

LIT 6435. Rhetoric of Science
3(3,0) PR: Graduate standing in English or C.I. Rhetorical analysis of traditional scientific texts and critically examine the discourse of technology.
Occasional
CAH - Department of English

LIT 6936. Studies in Literary, Cultural, and Textual Theory
3(3,0) PR: Graduate standing and C.I. Specific topics in the study of literature that foreground cultural and theoretical issues. May be used in the degree program a maximum of 4 times only when course content is different.
Occasional
CAH - Department of English

MAA 5210. Topics in Advanced Calculus
3(3,0) PR: MAS 3105, MAP 2302, or equivalent or C.I. Real numbers, epsilon-delta language, limits, continuity, integration, differentiation, Taylor's theorem, series, uniform convergence, inverse and implicit function theorems.
Fall
COS - Department of Mathematics

MAA 5228. Analysis I
3(3,0) PR: MAS 3106 or C.I. Real numbers, limits, differentiation, Riemann integrals, Riemann-Stieltjes integrals, calculus in R^n,; metric and normed spaces, contraction mapping theorem, inverse and implicit functions.
Fall
COS - Department of Mathematics

MAA 6229. Analysis II
3(3,0) PR: MAA 5228 or C.I. Topological Spaces, Banach Spaces, Hilbert Spaces, Bounded Linear Operators, Distribution and Fourier Transform, Measure Theory and Function Spaces.
Spring
COS - Department of Mathematics

MAA 6238. Measure and Probability I
3(3,0) PR: MAA 6229 or C.I. The law of large numbers, central limit theorems, random walks, Poisson processes, stopping times, martingales.
Occasional
COS - Department of Mathematics

MAA 6245. Measure and Probability II
3(3,0) MAA 6238, or C.I. Martingales, Markov Processes, stopping times, Brownian motion, Weiner measure
Occasional
COS - Department of Mathematics

MAA 6306. Real Analysis
3(3,0) PR: MAA 5210. Sets, function spaces, Lebesque measure, Lebesque-Stieltjes measure, measurable functions, convergence notions, general measure and integration, Radon-Nikodym theorem.
Occasional
COS - Department of Mathematics

MAA 6404. Complex Analysis
3(3,0) PR: MAA 6405, MAA 4402, MAA 4226, or C.I. Review of complex variable theory; advanced topics chosen from conformal mapping and its applications, boundary behavior, numerical techniques; singular integrals.
Occasional
COS - Department of Mathematics

MAA 6405. Complex Variables
3(3,0) PR: MAA 5228 or C.I. Complex plane, analytic functions, harmonic functions, Cauchy►s theorem and integral formula, maximum modulus principle, Laurent series, singularities, the residue theorem.
Spring
COS - Department of Mathematics

MAA 6416. Topology
3(3,0) PR: MAA 4226, MTG 4302. Topological spaces and continuous functions, connectedness and compactness, separation axioms, metrization theorems, Baire spaces and dimension theory, the fundamental group and homotopy paths.
Even Spring
COS - Department of Mathematics

MAA 6506. Functional Analysis
3(3,0) PR: MAA 4226 or C.I. Normed vector spaces, linear operators, Baire Category theorem, Banach fixed point theorem, Hahn-Banach theorem and applications, open mapping and closed graph theorem with applications, Hilbert space, Gateaux and Frechet.
Even Spring
COS - Department of Mathematics

MAA 6508. Hilbert Spaces with Applications
3(3,0) PR: MAP 2302, MAS 3106, or C.I. Normed and inner product spaces; Hilbert spaces; orthonormal systems; linear operators and spectral decomposition; applications to differential and integral equations.
Occasional
COS - Department of Mathematics

MAA 6531. Analysis of Manifolds
3(3,0) Matrix or Linear Algegra, MAA 4226 or MAA 5210, or C.I. Derivatives as linear transformations, inverse function theorem, manifolds and integration of real-valued functions on manifolds, wedge products, differential forms, vector analysis as a specific case.
Occasional
COS - Department of Mathematics

MAA 7239. Asymptotic Methods in Mathematical Statistics
3(3,0) PR: MAP 6111 or C.I. Large sample theory, martingale sequences, probability measures on metric spaces, absolute continuity and singularity, Hellinger distance, functions of statistics, asymptotic theory of estimation and applications.
Occasional
COS - Department of Mathematics

MAD 5205. Graph Theory I
3(3,0) PR: MAD 4203, graduate standing or C.I. Connectivity, Hamilton cycles, spanning trees, network flows, matchings, vertex and edge colorings planar graphs, extremal problems, Ramsey theory, spectral graph theory.
Odd Spring
COS - Department of Mathematics

MAD 6309. Graph Theory II
3(3,0) MAD 5205 or C.I. Perfect graphs, structure of 3-connected graphs, matchings, nowhere zero flows, list coloring, extremal problems, Tutte polynomial, Hadwiger conjecture, Erdos-Hajnal conjecture, Vising's conjecture
Occasional
COS - Department of Mathematics

MAE 5327. Teaching Middle School Mathematics
3(3,0) PR: EDG 6415 and TSL 5085 or admission to Initial Teacher Professional Preparation certificate. Students will develop skills in planning and delivering mathematics instruction in grades 5-9. The use of technology, cooperative learning, ESOL, and manipulatives is considered.
Occasional
ED - School of Teaching, Learning, and Leadership

MAE 5336. Current Methods in Secondary School Mathematics
3(3,0) PR: EDG 6415, TSL 5085, or admission to MED program or Initial Teacher Professional Preparation certificate. Required special methods course for mathematics 6-12 certification. Assessment, curriculum, technology, practical classroom ideas and activities.
Occasional
ED - School of Teaching, Learning, and Leadership

MAE 5935. Post-Secondary Mathematics
3(3,0) PR: Graduate standing or senior standing or C.I. The course will focus on issues which are faced by teachers of collegiate mathematics. Topics will be selected from teaching issues, program issues, and other issues.
Even Fall
COS - Department of Mathematics

MAE 6145. Mathematics Curriculum, K-12
3(3,0) At least 6 semester hours of graduate credit in mathematics education or C.I. Development of historical and current issues and forces in mathematics curriculum. New mathematics programs and contemporary curricular issues will be emphasized.
Occasional
ED - School of Teaching, Learning, and Leadership

MAE 6318. Current Methods in Elementary School Mathematics
3(3,0) PR: EDE 6933 or C.I. Strategies of instruction of computation and concepts of number, geometry, and measurement; and algebra. Standards for teaching mathematics.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

MAE 6337. Teaching Algebra in the Secondary School
3(3,0) PR: MAE 3330 or C.I. Addresses specific techniques for developing algebra skills for pre-algebra through precalculus algebra needs. Logical deductions, problem solving, computer applications, and innovative methods are explored.
Even Summer
ED - School of Teaching, Learning, and Leadership

MAE 6338. Teaching Geometry in the Secondary School
3(3,0) PR: MAE 3330 or C.I. This course addresses specific techniques for developing geometry skills beginning in the general mathematics classes of grade 6 through the high school geometry course.
Odd Summer
ED - School of Teaching, Learning, and Leadership

MAE 6517. Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher
3(3,0) PR: Basic Teacher Certificate or C.I. The study of techniques for diagnosis and remediation of difficulties in mathematics.
Odd Summer
ED - School of Teaching, Learning, and Leadership

MAE 6641. Problem Solving and Critical Thinking Skills
3(2,1) PR: Regular Certificate or C.I. Development of procedures and practices necessary to implement critical thinking skills and problem solving techniques in the schools.
Spring
ED - School of Teaching, Learning, and Leadership

MAE 6656. Using Technology in the Instruction of K-12 Mathematics
3(3,0) PR: C.I. The application of computer technology to mathematics instruction including calculators, CAI, CMI, application software, simulators, and video disc technology.
Even Fall
ED - School of Teaching, Learning, and Leadership

MAE 6899. Seminar in Teaching Mathematics
3(3,0) PR: Six semester hours of graduate credit in mathematics education. Development of historical and current issues, forces, and individuals and their impact on the teaching of mathematics K-12. Consideration of advanced instructional techniques. May be repeated for credit.
Fall
ED - School of Teaching, Learning, and Leadership

MAE 7640. History of Mathematics Education
3(3,0) PR: Doctoral standing. Study of issues and forces that have shaped mathematics education including policies, classroom practices, curriculum development, instructional materials, technology and assessment of learning.
Even Spring
ED - School of Teaching, Learning, and Leadership

MAE 7795. Seminar on Research in Mathematics Education
3(3,2) PR: Doctoral standing.
Even Summer
ED - School of Teaching, Learning, and Leadership

MAE 7945. Internship in Mathematics Education
3(3,0) PR: Admission to the Math Ed track of the Ph.D. in Education. The focus of this course is on student's participation in teaching and service related to mathematics education. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

MAN 6066. Ethical Leadership
3(3,0) PR: Graduate standing in the College of Business Administration or C.I. Building on a foundation of basic theories of ethical decision making from organizational and behavioral perspectives. The course examines challenges involved in maintaining exemplary professional ethics.
Occasional
BA - Department of Management

MAN 6244. Organizational Behavior
1.5(1.5,0) PR: Graduate standing. Study of behavior of individuals, groups, and the interactions between them. Students will be exposed to the theories behind the "people" skills for effective management.
Occasional
BA - Department of Management

MAN 6245. Organizational Behavior and Development
3(3,0) PR: CBA master's program of study foundation core or C.I. The analysis of human behavior in organizations in terms of the individual, small group, intergroup relationships, and the total organization.
Fall
BA - Department of Management

MAN 6285. Change Management
3(3,0) PR: Graduate standing or C.I. Course designed to familiarize students with change management processes and interventions.
Even Fall
BA - Department of Management

MAN 6296. Executive Leadership
3(3,0) PR: Admission to the Executive MBA program. A review of the theory, research, and practice of leadership in organizations. Special attention to contemporary leadership issues, including transactional and transformational leadership.
Odd Spring
BA - Department of Management

MAN 6305. Human Resources Management
3(3,0) PR: Graduate standing or C.I. Course is designed as an overview of human resources practices, techniques and strategies.
Occasional
BA - Department of Management

MAN 6311. Advanced Topics in Human Resources Management
3(3,0) PR: MAN 6305 or C.I. An in-depth analysis of current human resource issues related to the attraction, management, and retention of human capital.
Occasional
BA - Department of Management

MAN 6325. Applied Research Tools
3(3,0) PR: MAN 6305 and MAN 6285. Development of applied qualitative and quantitative research skills for collecting, analyzing and reporting data to organizations, within the context of managing human resources and change.
Occasional
BA - Department of Management

MAN 6385. Strategic Human Resources Management
3(3,0) PR: MAN 6305 or C.I. Examination of the strategic orientation of human resources management and the development of the human resources architecture aligned with the organization's strategy and task environment.
Occasional
BA - Department of Management

MAN 6395. Leadership Development and Coaching
3(3,0) PR: Graduate standing or C.I. Course is designed to prepare students to understand the nature and role of leadership development with an emphasis on coaching.
Occasional
BA - Department of Management

MAN 6446. Applied Negotiations in Management
1.5(1.5,0) PR: Graduate standing. The study and application of negotiation theories and processes to human resource management practices and other management activities in work organizations.
Occasional
BA - Department of Management

MAN 6448. Conflict Resolution and Negotiation
3(3,0) PR: Graduate standing or C.I. Theory and processes of negotiation in a variety of settings, with relevance to the broad spectrum of negotiation faced by managers.
Occasional
BA - Department of Management

MAN 6721. Applied Strategy and Business Policy
3(3,0) PR: MBA Professional Core I and taken in last semester of program. This capstone course integrates the various functional disciplines in business administration. It focuses on the theories and frameworks in the field of strategic management.
Spring
BA - Department of Management

MAN 6915. Applied Field Project
3-6(3-6,0) PR: All other courses in the selected track in the program. Capstone course; applies concepts, theories and methods learned earlier in program to organizational problems in business settings.
Occasional
BA - Department of Management

MAN 7207. Organization Theory
3(3,0) PR: Doctoral status. Study of impact of environment, technology, size and innovation on organization structure, functions and development.
Occasional
BA - Department of Management

MAN 7275. Organizational Behavior
3(3,0) PR: Doctoral standing or C.I. In-depth review of the classic and modern organizational behavior research literature, which deals with management of individual and group behavior in organizations.
Occasional
BA - Department of Management

MAN 7776. Business-level Strategic Management
3(3,0) PR: Admission to doctoral program and C.I. In-depth review of the classic and modern business-level strategy research literature, which deals with topics such as competitive strategy, industry analysis and the strategy process.
Occasional
BA - Department of Management

MAN 7900. Directed Readings in Management
3(3,0) PR: Admission to doctoral program and C.I. Directed readings in the area of Management concentration, as determined by the student's doctoral study advisory committee. May be repeated for credit.
Occasional
BA - Department of Management

MAN 7916. Seminar in Management Research
Var PR: Admission to PhD program or C.I. Examines empirical and theoretical research in selected management topics. Specific topics may not be repeated for credit. Maximum of 15 hours toward degree. May be repeated for credit only when course content is different.
Occasional
BA - Department of Management

MAP 5117. Mathematical Modeling
3(3,0) PR: STA 4321, MAP 4303, graduate standing or senior standing, or C.I. Introduction to modeling in industrial and scientific applications; techniques for studying statistical and deterministic models.
Even Fall
COS - Department of Mathematics

MAP 5336. Ordinary Differential Equations and Applications
3(3,0) PR: MAA 5228 or C.I. Existence and uniqueness of solutions of differential equations, systems of ordinary differential equations, autonomous systems, phase plane analysis, stability, bifurcations.
Spring
COS - Department of Mathematics

MAP 5426. Special Functions
3(3,0) PR: MAP 2302, and graduate status or senior standing or C.I. Series and integral representations, generating functions, recurrence relations and orthogonality properties of the special functions. Emphasis on Bessel, Legendre and hypergeometric functions.
Occasional
COS - Department of Mathematics

MAP 5435. Advanced Mathematics for Engineers
3(3,0) PR: MAP 2302, and graduate status or senior standing or C.I. Linear Algebra and matrix methods, ordinary differential equations, Fourier series, partial differential equations, numerical methods for differential equations, and applications to engineering.
Occasional
COS - Department of Mathematics

MAP 5514. Linear and Nonlinear Waves I
3(3,0) PR: MAP 2302, and graduate standing or senior standing, or C.I. Equations of motion in inviscous and viscous fluids, energy equation and energy flux, linear theory of gravity and capillary-gravity waves, variational principles for water waves.
Occasional
COS - Department of Mathematics

MAP 5931. Research Seminar
1(1,0) Graduate status or senior standing or C.I. Four instructors will introduce the students to a research area by presenting necessary background and presenting current investigations. Different branches of mathematics will be presented for a sense of diversity.

COS - Department of Mathematics

MAP 6111. Mathematical Statistics
3(3,0) PR: MAA 6238 Measure and Probability or C.I. Strong laws of large numbers, consistency and asymptotic normality, complete and sufficient statistics, maximum likelihood and least squares, optimal estimators, hypothesis testing.
Spring
COS - Department of Mathematics

MAP 6118. Introduction to Nonlinear Dynamics
3(3,0) PR: MAP 5336, PHY 2048C or equivalent, or C.I. Nonlinear differential equations; bifurcation theory; Hamiltonian dynamics; integrable systems and breakdown of integrability; chaos in conservative and dissipative systems.
Occasional
COS - Department of Mathematics

MAP 6168. Mathematical Modeling II
3(3,0) PR: MAP 5117, graduate standing, or C.I. Solutions of complex industrial mathematics problems in navigation/guidance, object tracking, pattern recognition, and fluid dynamics.
Occasional
COS - Department of Mathematics

MAP 6207. Optimization Theory
3(3,0) PR: MAA 4226 or C.I. Lagrangian function and duality, Kuhn-Tucker' theorem, quadratic programming and Wolfe►s theorem, Griffith and Stewar►s method, search methods for unconstrained optimization.
Occasional
COS - Department of Mathematics

MAP 6218. Stochastic Calculus
3(3,0) MAA 6245, or C.I. Stochastic integration, Stochastic Differential Equations
Occasional
COS - Department of Mathematics

MAP 6356. Partial Differential Equations
3(3,0) PR: MAP 4341 or MAP 5435 or equivalent. First and second order linear equations; classification; analytical methods including Green►s functions and integral representations; introduction to nonlinear equations; applications.
Even Fall
COS - Department of Mathematics

MAP 6383. Mathematical Methods for Image Analysis
3(3,0) PR: MAP 2302, MAS 3106, MAT 5712 or COT 4500, or C.I. Linear spaces, eigenvalue problems, linear and nonlinear optimization methods, calculus of variations and numerical; solutions of partial differential equations, compressive sampling, diffusion maps, graphical models.
Odd Fall
COS - Department of Mathematics

MAP 6385. Applied Numerical Mathematics
3(3,0) PR: MAT 5712 or C.I. Solution of linear systems, numerical linear algebra, numerical solution of ordinary differential equations, numerical partial differential equations.
Spring
COS - Department of Mathematics

MAP 6398. Multivariate Splines and Surface Fitting
3(3,0) PR: Graduate standing or C.I. Approximation of functions of several variables, tensor product splines, theory of multivariate splines, box splines, surface fitting, applications to statistics, computer graphics.
Occasional
COS - Department of Mathematics

MAP 6407. Integral Equations and the Calculus of Variations
3(3,0) PR: MAP 3203 and MAS 3105, or graduate standing , or C.I. Dimensional Analysis and Scaling, Calculus of Variations, Lagrangian and Hamiltonian Mechanics, Noether's Theorem, Equations of Applied Mechanics, Sturm-Liouville Theory, Integral Equations, Similarity Methods
Fall
COS - Department of Mathematics

MAP 6408. Perturbations and Asymptotic Methods
3(3,0) PR: MAP 3203, MAS 3105, and MAA 4402, or graduate standing, or C.I. Asymptotic Analysis and Perturbation Methods, Multiple Scales, Boundary Layers, WKB method, Stationary Phase method, Steepest Descents, Riemann-Lebesgue Lemma
Spring
COS - Department of Mathematics

MAP 6416. Applied and Computational Harmonic Analysis
3(3,0) MAA 6229 or C.I. Fourier Series, Fourier transform, Littlewood-Paley theory, Heisenberg uncertainty principle, wavelets, frame theory, Karhunen-Loeve transform, comprehensive sensing, matrix completion, phase retrieval, signal processing.
Occasional
COS - Department of Mathematics

MAP 6419. Advanced Transform Methods
3(3,0) PR: MAP 6424 or C.I. Fourier analysis and sliding-window Fourier transform, sampling theory and its applications in signal analysis and optics, Radon transforms, the technique of back projection.
Occasional
COS - Department of Mathematics

MAP 6420. Generalized Functions
3(3,0) PR: MAA 6506 or C.I. Spaces of test functions and their duals, calculus of distributions, convolution and tempered distributions, Fourier transforms of distributions, and applications to PDEs.

COS - Department of Mathematics

MAP 6421. Integral Equations
3(3,0) PR: MAA 6405 or C.I. Successive approximations, Volterra equations, Fredholm theory, Hilbert-Schmidt theory, Newmann series, singular integral equations, the Riemann-Hilbert problem.
Occasional
COS - Department of Mathematics

MAP 6424. Transform Methods
3(3,0) PR: MAA 6405 or C.I. Laplace, Fourier, Hankel, and other integral transforms, inversion theorems; the Z transform; applications to physical problems.
Occasional
COS - Department of Mathematics

MAP 6438. Mathematical Fluid-Flow Theory I
3(3,0) PR: MAP 2302, MAP 4303, MAA 4402, PHY 3220 or equivalent, or C.I. Mathematical theory of incompressible fluid flows along with analytical methods in solving the equations of fluid dynamics in various situations.
Even Spring
COS - Department of Mathematics

MAP 6445. Approximation Techniques
3(3,0) PR: MAA 4227, MAA 5210 or C.I. Normed linear spaces; Weierstrass approximation theorem; Tchebycheff approximation by polynomials; trigonometric approximation; orthogonal expansions and least squares approximations.
Occasional
COS - Department of Mathematics

MAP 6465. Wavelets and Their Applications
3(3,0) PR: MAP 4341, MAA 6508, or C.I. Continuous wavelet transforms, discrete wavelet transforms, frames, Zak transform, multi-resolution analysis, orthonormal bases of compactly supported wavelets, spline wavelets.
Even Fall,Even Spring
COS - Department of Mathematics

MAP 6469. Bayesian Analysis and Approximation Theory
3(3,0) One of the following combinations: (1) Either MAP 5210 or MAA 5228 and MAS 5145; (2) AST 4762C or AST 5765; or (3) C.I. Bayes' theorem, Fourier and wavelet transforms. Function approximation in multidimensional spaces. Kernels, Splines. Bayesian data analysis, Monte Carlo and Markov Chain Monte Carlo methods.
Occasional
COS - Department of Mathematics

MAP 6507. Wave Propagation through Random Media
3(3,0) PR: MAP 2302, EEE 5542, or C.I. Development of mathematical models for laser communications and laser radar in atmospheric turbulence. Free-space propagation of Gaussian beams and classical theories of propagation.
Odd Spring
COS - Department of Mathematics

MAP 7119. Advanced Nonlinear Dynamics
3(3,0) PR: MAP 6118 or C.I. Solitons, inverse scattering transform, breakdown or integrability, analytic structure of dynamical systems, fractal aspects of turbulence.
Occasional
COS - Department of Mathematics

MAP 7386. Numerical Solutions of PDE
3(3,0) PR: MAP 6356, MAP 6385 or C.I. Numerical solution of linear and nonlinear partial differential equations of parabolic, elliptic and hyperbolic type. Solution of PDE using finite difference and spectral methods.
Occasional
COS - Department of Mathematics

MAP 7439. Mathematical Fluid-Flow Theory II
3(3,0) PR: MAP 6438 or C.I. Mathematical theory of compressible potential flow, nonlinear acoustics, exact solutions to equations of viscous fluid flow, viscous fluid flows at low or high Reynolds numbers.
Odd Fall
COS - Department of Mathematics

MAR 6077. Contemporary Marketing Issues
3(3,0) Master's program of study foundation core or C.I. Investigation of contemporary marketing issues stemming from current social, economic, and political developments.
Occasional
BA - Department of Marketing

MAR 6151. Global Marketing Strategy
3(3,0) Master's program of study foundation core or C.I. Comprehensive study of marketing management and strategy from a global perspective.
Occasional
BA - Department of Marketing

MAR 6406. Sales Force Management
3(3,0) Master's program of study foundation core or C.I. Comprehensive study of the analysis, methods and decisions involved in managing a contemporary sales force.
Occasional
BA - Department of Marketing

MAR 6466. Strategic Supply Chain and Operations Management
3(3,0) PR: Master's program of study foundation core or C.I. Planning and management of all activities involved in designing and managing the processes, assets, and flows of material and information required to meet customers' demands.
Spring
BA - Department of Marketing

MAR 6616. Marketing Research and Analysis
3(3,0) Master's program of study foundation core or C.I. Comprehensive study of primary research methods and analysis tools used to generate information for marketing decision making.
Occasional
BA - Department of Marketing

MAR 6646. Marketing Analytics for Strategic Decision Making
3(3,0) PR: Consent of College of Business Graduate Studies. Study of a variety of data-driven models and techniques used to understand customers, improve results, and facilitate strategic decision making.
Occasional
BA - Department of Marketing

MAR 6722. Digital Marketing Management
3(3,0) PR: CBA master's program of study foundation core. Understand how digital marketing differs from conventional marketing. Develop an ability to formulate digital marketing applications and build viable digital marketing strategies.
Occasional
BA - Department of Marketing

MAR 6729. Marketing of High Technology Products
3(3,0) PR: CBA master's program of study foundation core. Understand high technology marketing issues. Acquire concepts and tools to develop high technology business models. Develop insights into branding, new product development, forecasting and CRM.
Occasional
BA - Department of Marketing

MAR 6816. Strategic Marketing Management
3(3,0) PR: MBA Professional Core I. Marketing competitive strategy formulation with respect to product, pricing, promotion and distribution. Course aims at developing strategic thinking, functional marketing expertise and analytical skills.
Fall,Spring
BA - Department of Marketing

MAR 6849. Services Marketing
3(3,0) PR: Graduate standing. Marketing in services industries is the focus of study with particular emphasis on unique aspects of services marketing, the service marketing mix, and the implementation of service strategies.
Occasional
BA - Department of Marketing

MAR 7575. Seminar in Consumer Behavior
3(3,0) PR: ECO 7423 and admission to the PhD program. Provide doctoral students with a broad exposure to the literature of consumer behavior theories and methods.
Occasional
BA - Department of Marketing

MAR 7626. Multivariate Analysis for Business Research
3(3,0) PR: ECO 7423 or equivalent, C.I. Provides PhD students an in-depth treatment of multivariate analysis applications to marketing and business research problems.
Occasional
BA - Department of Marketing

MAR 7638. Seminar in Marketing Theory, Scaling, and Measurement
3(3,0) PR: ECO 7423 and admission to the PhD program. Provide doctoral students with a foundation in marketing theory, scaling, and measurement.
Occasional
BA - Department of Marketing

MAR 7666. Seminar in Marketing Models I
1.5(1.5,0) PR: ECO 7423 (or equivalent) and admission to the Ph.D. program or C.I. Overview of marketing literature with emphasis on marketing models topics.
Occasional
BA - Department of Marketing

MAR 7667. Seminar in Marketing Models II
1.5(1.5,0) PR: ECO 7423 (or equivalent) and MAR 7666 and admission to Ph.D. program or C.I. Overview of marketing literature with emphasis on marketing models, beyond those covered MAR 7666.
Occasional
BA - Department of Marketing

MAR 7807. Seminar in Marketing Strategy I
1.5(1.5,0) PR: ECO 7423 (or equivalent) and admission to the Ph.D. program or C.I. Overview of marketing literature with emphasis on marketing strategy topics.
Occasional
BA - Department of Marketing

MAR 7808. Seminar in Marketing Strategy II
1.5(1.5,0) PR: ECO 7423 (or equivalent) and admission to Ph.D. program and MAR 7807, or C.I. Overview of marketing literature with emphasis on marketing strategy topics, beyond those covered in MAR 7807.
Occasional
BA - Department of Marketing

MAS 5145. Advanced Linear Algebra and Matrix Theory
3(3,0) PR: MAS 3106 or C.I. Linear spaces, subspaces, linear transformations, matrices, eigenvalues and eigenvectors, Jordan forms, positive definite matrices, bilinear and quadratic forms, functions of matrices.
Even Fall
COS - Department of Mathematics

MAS 5311. Algebra I
3(3,0) PR: MAS 4301 or graduate standing or C.I. Sets and categories, groups and groupoids, group actions, the class equation, Sylow theorems, Jordan-Holder Theorem, Rings, Modules, Complexes, Factorization, and Irreducibility.
Occasional
COS - Department of Mathematics

MAS 6312. Algebra II
3(3,0) PR: MAS 5311 or C.I. Modules over a principle ideal domain, Fields, Galois theory, Functors, Tensor product, Hom, Ext, Tor, Projective and Injective modules, Complexes, Derived Categories and Derived Functors.
Even Fall
COS - Department of Mathematics

MAS 7919. Doctoral Research
var May be repeated for credit. Graded S/U.
Occasional
COS - Department of Mathematics

MAS 7980. Doctoral Dissertation
var May be repeated for credit. Graded S/U.

COS - Department of Mathematics

MAT 5712. Scientific Computing
3(3,0) PR: MAC 2313, MAP 2302, and either MAS 3105 or MAS 3106, or C.I. Matlab fundamentals, computer arithmetic, nonlinear equations, polynomial interpolation, divided; differences, splines, curve fitting, least-squares method, numerical differentiation and Integration.
Even Fall
COS - Department of Mathematics

MCB 5205. Infectious Processes
3(3,0) PR: MCB 3020C or C.I. Discussion of current theories of the infectious process and the response of host cells and tissue to infection.
Fall
COM - Department of Molecular and Microbiology

MCB 5208. Cellular Microbiology: Host-Pathogen Interactions
3(3,0) PR: Graduate standing, PCB 3522. Examination of the molecular details of host-pathogen interactions. Key areas of cell biology will be considered in relation to microbial pathogenesis.
Spring
COM - Department of Molecular and Microbiology

MCB 5209. Microbial Stress Response
3(3,0) PR: Graduate standing or C.I. Examination of the molecular genetic mechanisms, bacterial and fungal pathogens used to adapt to changes in their environment.
Fall
COM - Department of Molecular and Microbiology

MCB 5225. Molecular Biology of Disease
3(3,0) PR: Graduate standing or C.I. An in-depth study of the molecular biological mechanism of diseases in experimental animal models and human populations.
Occasional
COM - Department of Molecular and Microbiology

MCB 5415. Cellular Metabolism
3(3,0) PR: Graduate standing or C.I. Basic concepts of the mechanisms that define the functioning and regulation of prokaryotic and eukaryotic cell metabolism.
Fall
COM - Department of Molecular and Microbiology

MCB 5505. Molecular Virology
3(3,0) PR: Graduate standing or C.I. An in-depth overview of the fundamental aspects and current concerns in modern virology including HIV, tumor viruses Prion disease, virus-host interaction, genome replication and pathogenesis.
Occasional
COM - Department of Molecular and Microbiology

MCB 5654C. Applied Industrial Microbiology
3(1,6) MCB 3020C, BSC 3403C or C.I. Combination of molecular and biochemical analyses with applied industrial microbiology projects.
Occasional
COM - Department of Molecular and Microbiology

MCB 5722C. Methods in Biotechnology
4(2,4) PR: Graduate standing. A laboratory course that will train graduate students in fluorescence and luminescence-based assays used in biopharmaceutical industry for target validation.
Occasional
COM - Department of Molecular and Microbiology

MCB 5932. Current Topics in Molecular Biology
VAR(VAR,VAR) PR: Graduate standing or C.I. Selected current research topics from the primary literature reflecting recent advances in molecular biology. May be repeated for credit.
Occasional
COM - Department of Molecular and Microbiology

MCB 6026. Molecular Biology & Microbiology Capstone
3(3,0) PR: Admission to the Molecular Biology and Microbiology M.S. program (non thesis track). An in-depth current literature research report on a relevant subject will be developed by student and evaluated by faculty committee.
Graded S/U.
Occasional
COM - Department of Molecular and Microbiology

MCB 6226. Molecular Diagnostics
3(3,0) PCB 3522, PCB 4524 and MCB 5225 or C.I. A course in basic laboratory skills used in molecular genetic or clinical diagnostic laboratories for detecting genetic diseases.
Occasional
COM - Department of Molecular and Microbiology

MCB 6273. Adv. Topics in Infectious Processes
2(2,0) PR: Graduate standing. Data presentations from the primary literature and from the student's original research will focus on the molecular mechanisms of host-pathogen interactions.
Occasional
COM - Department of Molecular and Microbiology

MCB 6314. Industrial Perspectives Seminar
1(1,0) PR: Biotechnology MS students. Learning concepts of basic research and drug development in the pharmaceutical industry and technical presentation. May be used in the degree program a maximum of 2 times.
Fall,Summer
COM - Department of Molecular and Microbiology

MCB 6417C. Microbial Metabolism
3(3,0) C.I. Relationship between microbial metabolism and principal cellular activities, emphasizing transport, respiration, differentiation, and synthesis.
Occasional
COM - Department of Molecular and Microbiology

MCB 6723. Practice of Biomolecular Science
2(2,0) Graduate standing. Provides MS and PhD students with an introduction to the practice of Biomolecular Science.
Graded S/U.
Occasional
COM - Department of Molecular and Microbiology

MDC 7180. Core Clerkship in Obstetrics and Gynecology
8(8,0) PR: Successful completion of M-2 term. During this 6-week required clerkship, you will be introduced to the obstetric and gynecologic care of women in the outpatient and inpatient settings.
Fall,Spring,Summer
COM - M.D. Program

MDC 7200. Core Clerkship in Internal and Family Medicine
16(16,0) PR: Successful completion of M-2 term. Students will learn care of the adult patient in both inpatient and outpatient settings, with emphasis on diagnosis and treatment in common medical disorders.
Fall,Spring,Summer
COM - M.D. Program

MDC 7400. Core Clerkship in Pediatrics
8(8,0) PR: Successful completion of M-2 term. This course is a 6 week, required clerkship introducing the student to the general inpatient and outpatient clinical care of children.
Fall,Spring,Summer
COM - M.D. Program

MDC 7600. Core Clerkship in Surgery and Surgical Selectives
16(16,0) PR: Successful completion of M-2 Term. The Surgery Clerkship will introduce the third year medical student to the evaluation, workup, diagnosis and treatment of a wide variety of surgical disorders.
Fall,Spring,Summer
COM - M.D. Program

MDC 7710. Core Clerkship in Emergency Medicine
6(6,0) PR: Successful completion of M3 clerkships. Four week core clerkship introduces the student to initial evaluation and workup as well as diagnostic ordering and treatment of patients presenting to the emergency department.
Fall,Spring,Summer
COM - M.D. Program

MDC 7800. Core Clerkship in Neurology
8(8,0) PR: Successful completion of M-2 Term. The neurology clerkship combines clinical neuroscience with neurologic history and examination to enable students to formulate differential diagnosis and treatment plans for common neurologic disorders.
Fall,Spring,Summer
COM - M.D. Program

MDC 7830. Core Clerkship in Psychiatry
8(8,0) PR: Successful completion of M-2 Term. Students will participate in patient assessment and treatment, with an emphasis on the most common psychiatric disorders and recognition of cases needing specialty psychiatric referral.
Fall,Spring,Summer
COM - M.D. Program

MDE 6055. Geriatrics: Fundamentals of Health Care Policy & System
Var(1-4,0) PR: Required to be in good academic standing. A pre-clinical elective designed to give students the opportunity to discuss health policy/service issues and to practice basic clinical interviewing skills with older adults.
Fall,Spring
COM - M.D. Program

MDE 6170. Core Clinical Rotation - Prenatal Genetics
1(1,0) Matriculation into the M.S. Genetic Counseling Program This course is for students to have clinical experience in Pre-natal Genetic Counseling.
Fall,Spring,Summer
COM - Department of Clinical Sciences

MDE 6171. Core Clinical Rotation - Pediatric Genetics
1(1,0) Matriculation into the M.S. Genetic Counseling Program This course is for students to have clinical experience in Pediatric Genetic Counseling.
Fall,Spring,Summer
COM - Department of Clinical Sciences

MDE 6172. Core Clinical Rotation - Adult Oncology Genetics
1(1,0) Matriculation into the M.S. Genetic Counseling Program This course is for students to have clinical experience in Pre-natal Genetic Counseling
Fall,Spring,Summer
COM - Department of Clinical Sciences

MDE 8035. 4th Year Elective in Patient Safety
6(6,0) PR: Successful completion of M2 modules and M3 core clerkships. UCF COM Students only. Students will have the opportunity to study patient safety and quality issues in an inpatient setting and see how the application of the fundamental concepts can improve health care safety and quality.
Fall,Spring,Summer
COM - M.D. Program

MDE 8040. Medical Spanish Elective
6(6,0) At least two years of high school Spanish or equivalent language exposure. Designed for medical students with at least basic Spanish knowledge to improve their understanding of medical Spanish.
Fall,Spring,Summer
COM - M.D. Program

MDE 8048. Narrative Medicine
3(3,0) Completion of the M3 year. This elective introduces fourth year medical students to the nationally recognized field of Narrative Medicine and teaches them to apply concepts of attention, representation and affiliation to patient and self care.
Fall,Spring,Summer
COM - M.D. Program

MDE 8051. The History of Western Medicine Elective
3(3,0) Completion of the M3 year. This course will explore the history of medicine from Hippocratic medicine to the sequencing of the human genome through the biography of its most prominent figures.
Fall,Spring
COM - M.D. Program

MDE 8072. International Elective
VAR(VAR,VAR) PR: Successful completion of M3 core clerkships. Students interested in completing an elective outside the U.S. should contact the Office of Student Affairs. Additional information may be available from Director of International Health Programs. Student must arrange approval process early in the third year.
Fall,Spring,Summer
COM - M.D. Program

MDE 8080. 4th Year Elective in Health Information Technology
6(6,0) PR: Successful completion of M2 modules and M3 core clerkships. Students will identify and explore a variety of topics on information technology's intersection with medicine. Topics include electronic and personal health records, information security and knowledge resources at the point of care.
Fall,Spring,Summer
COM - M.D. Program

MDE 8093. Clinical Anatomy Teaching Elective
6(6,0) PR: Successful completion of M3 core clerkships. M4 medical students can participate as teaching assistants in the human anatomy laboratory component of the UCF COM HB-2 module.
Fall,Spring,Summer
COM - M.D. Program

MDE 8095. Integrative Reproductive Medicine E-text Development
6(6,0) Completion of M3 Core Clerkships. Students will design a series of short interactive e-modules for preclinical students on a subject in reproductive medicine. Elective includes training in educational technology.
Fall,Spring,Summer
COM - M.D. Program

MDE 8105. Culinary Medicine Elective
6(6,0) Completion of the M3 year Culinary Medicine is a unique approach to nutrition education that integrates medical nutrition therapy principles with culinary medicine techniques. The goal is to teach patients what to eat and how to deliciously prepare meals in their own home kitchens.
Fall,Spring,Summer
COM - M.D. Program

MDE 8110. Elective in Reproductive Endocrinology and Infertility
6(6,0) PR: Successful completion of M3 core clerkships. Experience evaluating new and returning patients in REI clinic: participation in preoperative, operative and inpatient postoperative care, advanced gynecologic ultrasonography, and IVG services.
Fall,Spring,Summer
COM - M.D. Program

MDE 8124. Elective in Patient and Family Centered Care
3(3,0) Completion of the M3 year. This elective introduces fourth year medical students to the philosophy and practice of Patient and Family Centered Care through active engagement in clinical experiences that underscore basic PFCC tenants of respect and dignity, collaboration, open information sharing and meaningful participation which correlate directly to three of the Association of American Medical Colleges' Entrustable Professional Activities for medical students.
Fall,Spring
COM - M.D. Program

MDE 8140. Geriatric Elective
6(6,0) PR: Successful completion of M3 core clerkships. This four week 4th year elective experience will provide advanced clinical training and experience in the selective specialty. Provides a menu of options for exposure and experience in geriatric medicine.
Fall,Spring,Summer
COM - M.D. Program

MDE 8160. Obstetrics and Gynecology Ambulatory Elective
6(6,0) Completion of the M3 year The Ob/Gyn Ambulatory elective is available to 4th year medical students to acquire a comprehensive experience in obstetrics and gynecology. The experience will be both outpatient and inpatient and include participation in all aspects of care for women. The student will participate in obstetric and gynecologic consultations, attending outpatient clinics, assisting in the operating room with obstetric and gynecologic cases, and participating in pre-op and post-op care.
Fall,Spring,Summer
COM - M.D. Program

MDE 8162. Gynecologic Oncology Elective
6(6,0) Completion of the M3 year The student works with two experienced educators on a busy service. There is a large volume of tumor/cancer cases (robotic, laparoscopic, open, perineal).
Fall,Spring
COM - M.D. Program

MDE 8165. Elective in Gynecology
6(6,0) Completion of the M3 year The Gynecology elective is available to 4th year medical students to acquire a comprehensive experience with commonly treated gynecologic issues for women. The experience will include performing inpatient and emergency gynecologic consultations, attending outpatient clinics, assisting in the operating room with gynecologic cases and participating in following gynecologic patients with breast disorders in the breast clinic.
Fall,Spring,Summer
COM - M.D. Program

MDE 8204. In-Patient Medicine Elective
6(6,0) completion of the M3 year Students will be assigned to an in-patient team consisting of a medical resident and a teaching hospitalist. Students will follow assigned patients throughout their hospitalization and be responsible along with the resident for their care.
Fall,Spring,Summer
COM - M.D. Program

MDE 8208. Advanced Physical Diagnosis
6(6,0) PR: Completion of M3 Core Clerkships. C.I. Advance techniques in physical diagnosis as an aid in data collection and syntheses of differential diagnosis.
Fall,Spring,Summer
COM - M.D. Program

MDE 8220. Clinical Cardiology Elective
6(6,0) Completion of the M3 year. Clinical rotation in cardiology with emphasis on gaining basic knowledge in diagnosis and management of common cardiovascular conditions.
Fall,Spring
COM - M.D. Program

MDE 8222. Ambulatory Elective in Cardiology
6(6,0) PR: Successful completion of M3 core clerkships. The four week 4th year elective experience will provide advanced clinical training in the outpatient care of adult cardiology patients in the outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8223. Cardiology-Inpatient/Outpatient
6(6,0) PR: Successful completion of M3 core clerkships. The student will develop an understanding of the pathophysiology and cardiovascular disease and learn an approach to the evaluation and treatment of patients with cardiovascular disease.
Fall,Spring,Summer
COM - M.D. Program

MDE 8225. Congenital Cardiology
6(6,0) PR: Successful completion of M3 core clerkships. In-depth exposure to pediatric cardiology including patients with congenital heart disease in the inpatient, outpatient, CVICU, and operative room settings.
Fall,Spring,Summer
COM - M.D. Program

MDE 8227. Advanced ECG Self-Study Elective
3(3,0) Completion of the M3 year. Students will engage in a 2 week intense ECG self-study review with weekly meeting sessions.
Fall,Spring,Summer
COM - M.D. Program

MDE 8245. Pulmonary Elective
6(6,0) PR: Successful completion of M3 core clerkships. Inpatient and outpatient management of pulmonary diseases and sleep disorders.
Fall,Spring,Summer
COM - M.D. Program

MDE 8246. Ambulatory Elective in Pulmonary Medicine
6(6,0) PR: Successful completion of M3 clerkships. This four week experience will provide advanced clinical training in the outpatient care of adult pulmonary medicine patients in the outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8250. Dermatology Elective
6(6,0) PR: Successful completion of M3 core clerkships. The student will be exposed to almost all aspects of diagnosis and treatment within dermatology (pediatrics to geriatric), surgical dermatology (routine, Moh's, laser), cosmetic dermatology (lasers, fillers, cosmetic surgery, hair transplantation, aesthetic services and dermatopathology).
Fall,Spring,Summer
COM - M.D. Program

MDE 8251. Dermatology Clinic Elective
VAR(3-6,0) PR: Successful completion of M3 core clerkships. This elective will provide exposure to a general dermatology practice.
Fall,Spring,Summer
COM - M.D. Program

MDE 8252. Ambulatory Elective in Dermatology
6(6,0) PR: Successful completion of M3 core clerkships. This four week experience will provide advanced clinical training in the outpatient care of adult dermatology patients in the outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8254. Advanced Dermatology Elective
6(6,0) PR: Successful completion of M3 core clerkships and satisfactory completion of Dermatology elective. This elective will expose the student to almost all aspects of diagnosis and treatment within general dermatology and provide additional opportunities in research and office management.
Fall,Spring,Summer
COM - M.D. Program

MDE 8255. Associates in Dermatology Elective
6(6,0) PR: Completion of M3 Core Clerkships. A multi-tiered dermatology elective that will include introduction to patient assessment, diagnostic techniques, surgical techniques and dermato-pathologic evaluations.
Fall,Spring,Summer
COM - M.D. Program

MDE 8262. Ambulatory Elective in Endocrinology
6(6,0) PR: Successful completion of M3 core clerkships. This four week experience will provide advanced clinical training in the outpatient care of adult endocrinology patients in the outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8270. Gastroenterology Inpatient/Outpatient
6(6,0) PR: Successful completion of M3 core clerkships. The student will develop an understanding of the pathophysiology of gastrointestinal disease and learn an approach to the evaluation and treatment of patients with gastrointestinal disease.
Fall,Spring,Summer
COM - M.D. Program

MDE 8271. Ambulatory Elective in Gastroenterology
6(6,0) PR: Successful completion of M3 core clerkships. This four week experience will provide advanced clinical training in the outpatient care of adult gastroenterology patients in the outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8280. Hematology/Oncology Inpatient/Outpatient
6(6,0) PR: Successful completion of M3 core clerkships. This course provides an in-depth exposure to the diagnosis and treatment of hematologic disease and malignancy in the hospital and outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8281. Ambulatory Elective in Hematology/Oncology
6(6,0) PR: Successful completion of M3 core clerkships. This four week experience will provide advanced clinical training in the outpatient care of adult hematology/oncology patients in the outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8283. Hematologic Oncology and Bone Marrow Stem Cell Transplantation
6(6,0) PR: Successful completion of M3 core clerkships. Provides an in-depth exposure and experience in hematologic malignancies and bone marrow hematopoietic stem cell transplantation. Patients seen will have wide range of malignancies such as leukemia, lymphoma, myeloma, Hodgkins disease and bone marrow failure syndrome such as aplastic anemia.
Fall,Spring,Summer
COM - M.D. Program

MDE 8285. Diagnostic Hematology
6(6,0) PR: Successful completion of M3 core clerkships. The student will be working closely with the hematopathologist, immunopathologist, clinical hematologists, senior residents and supervisors of the hematology section; he/she will both observe and participate in the usual studies performed in these areas.
Fall,Spring,Summer
COM - M.D. Program

MDE 8310. Ambulatory Elective in Rheumatology
6(6,0) PR: Successful completion of M3 clerkships. This four week experience will provide advanced clinical training in the outpatient care of adult rheumatology patients in the outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8320. Infectious Diseases-Inpatient/Outpatient
6(6,0) PR: Successful completion of M3 core clerkships. This course provides an in-depth exposure to the diagnosis and treatment of infectious diseases in the hospital and outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8321. Ambulatory Elective in Infectious Disease and Travel Medicine
6(6,0) PR: Successful completion of M3 clerkships. This four week experience will provide advanced clinical training in the outpatient care of adult infectious disease/travel medicine patients in the outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8344. Ambulatory Elective in Acute Care Medicine
6(6,0) PR: Successful completion of M3 clerkships. This four week 4th year elective experience will provide advanced clinical training in the outpatient care of adult acute care patients in the outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8345. Wound Care
6(6,0) PR: Successful completion of M3 clerkships. Provides an in-depth exposure to the patient with open wounds, precursor and follow-up of healed wounds.
Fall,Spring,Summer
COM - M.D. Program

MDE 8350. Nephrology Inpatient/Outpatient
6(6,0) PR: Successful completion of M3 core clerkships. This course provides an in-depth exposure to the diagnosis and treatment of renal disease in the hospital and outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8351. Ambulatory Elective in Nephrology
6(6,0) PR: Successful completion of M3 clerkships. This four week experience will provide advanced clinical training in the outpatient care of adult nephrology patients in the outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8391. Integrative Medicine Elective
6(6,0) PR: Completion of the M3 year. This elective rotation that provides introductory sessions and workshops will be presented by community practitioners and preceptors focusing on different modalities of integrative medicine; botanicals, homeopathy, mind/body, nutrition, traditional Chinese medicine, osteopathy, and energy medicine.
Spring
COM - M.D. Program

MDE 8400. Pediatric Hospitalist
6(6,0) PR: Successful completion of M3 core clerkships. Provides an in-depth exposure and experience in hospital level care of admitted patients, ages birth through 18 years, consults and admissions.
Fall,Spring,Summer
COM - M.D. Program

MDE 8404. Ambulatory Pediatrics Elective
6(6,0) PR: Successful completion of M3 core clerkships. This elective is designed to acquaint the student with the management of acute pediatric illness in an outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8410. Adolescent Medicine Elective
6(6,0) PR: Successful completion of M3 core clerkships. This elective is designed to acquaint the student with the fundamentals of adolescent medicine by providing outpatient, community based exposure to the care of adolescents.
Fall,Spring,Summer
COM - M.D. Program

MDE 8415. Developmental/Behavioral Pediatric Medicine
6(6,0) PR: Successful completion of M3 core clerkships. This program emphasizes the use of multiple disciplines and community resources that specialize in developmental issues.
Fall,Spring,Summer
COM - M.D. Program

MDE 8420. Pediatric Cardiology
6(6,0) PR: Successful completion of M3 core clerkships. This clinical rotation will introduce the student to the outpatient pediatric cardiology practice with the goals of developing basic cardiology skills such as data collection and clinical examination. EKG interpretation, basic echocardiography, basic catheterization will be introduced.
Fall,Spring,Summer
COM - M.D. Program

MDE 8425. Pediatric Pulmonary Elective
6(6,0) PR: Successful completion of M3 core clerkships. This clinical course will be based on basic respiratory physiology and will include a variety of clinical pulmonary experiences and diseases.
Fall,Spring,Summer
COM - M.D. Program

MDE 8430. Pediatric Endocrinology Elective
6(6,0) PR: Successful completion of M3 clerkships. Provide in-depth exposure and experience in the diagnosis and treatment of endocrine disorders with a focus on the multidisciplinary care of the diabetic child; also, growth disorders, disorders of puberty and obesity, and its complications.
Fall,Spring,Summer
COM - M.D. Program

MDE 8433. Pediatric Gastroenterology Elective
6(6,0) PR: Successful completion of M3 core clerkships. Students will be exposed to a wide spectrum of pediatric gastrointestinal and liver diseases.
Fall,Spring,Summer
COM - M.D. Program

MDE 8438. Genetics and Dysmorphology
6(6,0) PR: Successful completion of M3 core clerkships. This elective will introduce the student to the evaluation and treatment of pediatric patients with a known or suspected genetic, cyto genetic, metabolic, or dysmorphic disorder.
Fall,Spring,Summer
COM - M.D. Program

MDE 8440. Pediatrics Hematology/Oncology
6(6,0) PR: Successful completion of M3 core clerkships. Pediatrics hematology and oncology including bone marrow transplant.
Fall,Spring,Summer
COM - M.D. Program

MDE 8445. Pediatric Nephrology Elective
6(6,0) PR: Successful completion of M3 core clerkships. This rotation is designed to familiarize the student with the wide range of pediatric kidney diseases encountered in the ICU, inpatient service and outpatient departments.
Fall,Spring,Summer
COM - M.D. Program

MDE 8454. Pediatric Infectious Diseases
6(6,0) PR: Successful completion of M3 core clerkships. Introduction to the clinical aspects of the diagnosis and treatment of infectious diseases in children.
Fall,Spring,Summer
COM - M.D. Program

MDE 8460. Neonatology Elective
6(6,0) PR: Successful completion of M3 core clerkships. This elective is designed to expose the student to normal physiology and a wide variety of disease that affect the term and pre-term newborn.
Fall,Spring,Summer
COM - M.D. Program

MDE 8465. Pediatric Critical Care & ICU Elective
6(6,0) PR: Successful completion of M3 core clerkships. This course is designed to give students the experience of caring for critically ill patients ranging from infancy through adolescence in the ICU/SCU setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8485. Pediatrics Orthopaedics Elective
6(6,0) PR: Successful completion of M3 core clerkships. This rotation will expose the student to a wide variety of pediatrics orthopaedic problems affecting the growing musculoskeletal system.
Fall,Spring,Summer
COM - M.D. Program

MDE 8490. Pediatric Surgery Selective & Elective
6(6,0) PR: Successful completion of M3 core clerkships. Participates in outpatient, inpatient and intra-operative treatment of children.
Fall,Spring,Summer
COM - M.D. Program

MDE 8491. Pediatric Neurosurgery
6(6,0) PR: Successful completion of M3 core clerkships. An introduction to Pediatric Neurosurgery.
Fall,Spring,Summer
COM - M.D. Program

MDE 8500. Pediatric Dermatology
6(6,0) PR: Successful completion of M3 core clerkships. Overview of pediatric dermatology including common skin dermatoses, birthmarks, genodermatoses in both outpatient and inpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDE 8505. Pediatrics Emergency Medicine
6(6,0) PR: Completion of M3 Core Clerkships. This elective will provide students with experience assessing and caring for children in a Pediatrics Emergency Department that provides emergent and urgent care to patients aged 0-17 years old, including pregnant adolescent patients in their first trimester. Students will be exposed to a wide variety of illnesses and injuries, including critical illnesses, and primary care diagnoses. Supervision will be provided by attending physicians in Pediatrics, Emergency Medicine or Pediatrics Emergency Medicine. Students will perform an initial rapid assessment followed by a thorough history and physical examination, and then generate a differential diagnoses and preliminary management plan. All management decisions will be discussed with a senior resident or attending physician.
Fall,Spring,Summer
COM - M.D. Program

MDE 8511. Pediatric Anesthesia Elective
6(6,0) Completion of the M3 year This two- or four-week elective rotation, open to fourth year medical students, will provide a broad learning experience in pediatric anesthesiology.
Fall,Spring,Summer
COM - M.D. Program

MDE 8512. Pediatric/Adolescent Gynecology Elective
6(6,0) Completion of the M3 year The pediatric and adolescent gynecology elective is designed to expose medical students to the full spectrum of gynecologic services for the pediatric and adolescent population while remaining within a developmentally appropriate, supportive environment. Students will also participate in the surgical management of endometriosis and ovarian cysts.
Fall,Spring,Summer
COM - M.D. Program

MDE 8520. Advanced Clinical Anatomy
6(6,0) PR: Successful completion of M3 core clerkships. Student will plan and implement a program to study and demonstrate the anatomy, current literature and surgical approaches related to a contract agreed upon by student and elective supervisor at the start of the elective.
Fall,Spring,Summer
COM - M.D. Program

MDE 8530. Pathology and Laboratory Medicine
6(6,0) PR: Successful completion of M3 core clerkships. Provides introduction to all areas of pathology practice with emphasis on anatomic pathology disciplines.
Fall,Spring,Summer
COM - M.D. Program

MDE 8532. Clinical Pathology Methods and Interpretation
6(6,0) PR: Successful completion of M3 core clerkships. The course is designed to acquaint the student with all aspects of a large hospital clinical laboratory. The student will learn the capabilities of the laboratory by rotating through hematology, immunology, chemistry and microbiology.
Fall,Spring,Summer
COM - M.D. Program

MDE 8534. Surgical Pathology
6(6,0) PR: Successful completion of M3 core clerkships. The course is designed to provide the student with the opportunity for surgical specimen preparation and interpretation. Emphasis is placed on normal gross and histologic findings, gross and microscopic pathology and clinicopathologic correlation of the patient's disease process.
Fall,Spring,Summer
COM - M.D. Program

MDE 8535. Autopsy Pathology
6(6,0) PR: Successful completion of M3 core clerkships. Provide the student with the opportunity for in-depth study and performance of complete autopsies.
Fall,Spring,Summer
COM - M.D. Program

MDE 8550. Clinical Ophthalmology Elective
VAR(1.5-6,0) PR: Successful completion of M3 core clerkships. An eye clinic based experience where students will master ophthalmoscopy, ophthalmic examination skills, and participate in general and specialty eye surgery and clinics.
Fall,Spring,Summer
COM - M.D. Program

MDE 8590. Otolaryngology - Head and Neck Surgery Elective
6(6,0) Completion of the M3 year This elective rotation is led by internationally respected surgeons skilled in Otologic/Neurotologic head and neck surgery. Students work with 5 surgeons to learn the basics of Oto-HNS surgery.
Fall,Spring,Summer
COM - M.D. Program

MDE 8591. Pediatric Maxillofacial & Craniofacial Surgery Elective
6(6,0) PR: Successful completion of M3 core clerkships. This course is designed to provide trainees with expanded clinical training in the areas of cleft, craniofacial and pediatric oral and maxillofacial surgery.
Fall,Spring,Summer
COM - M.D. Program

MDE 8592. Pediatric Otolaryngology Elective
6(6,0) Completion of the M3 year. This rotation will allow students interested in pediatric primary care to spend time with our busy service learning about medical and surgical care of common pediatric head and neck, upper airway, and otologic conditions of children. This will take place in the inpatient/outpatient/operating room settings.
Fall,Spring
COM - M.D. Program

MDE 8603. Elective in Orthopaedic Patient Care and Surgical Techniques
6(6,0) Completion of the M3 year. M4 students will be exposed to the daily interactions with patients needing musculoskeletal care, medical evaluations, review of history, care options and surgical techniques. All patients are sports medicine related injuries. Students will get exposure to orthopedic sports medicine injuries and arthritic condition of the lower extremity.
Fall,Spring
COM - M.D. Program

MDE 8605. Vascular Surgery Elective
6(6,0) Completion of M3 academic year. Student will actively participate in clinical care of vascular surgery patients including operating rooms. Student may present cases at conference.
Fall,Spring,Summer
COM - M.D. Program

MDE 8631. General Thoracic Surgery Elective
6(6,0) Completion of the M3 year Elective rotation for 4th year medical student in General Thoracic Surgery where students learn to take care of thoracic surgery patients.
Fall,Spring,Summer
COM - M.D. Program

MDE 8632. Cardiothoracic Surgery
6(6,0) Completion of the M3 academic year. The student will be joining the team in daily rounds, scrubbing in surgeries, and following post-operative patients, and participating in a weekly outpatient clinic.
Fall,Spring,Summer
COM - M.D. Program

MDE 8660. Plastic Surgery 4th Year Elective
6(6,0) PR: Successful completion of M3 core clerkships. This rotation has been designed to expose the 4th year medical student to the diversity of plastic surgery, by having him/her work with several UCF College of Medicine plastic surgeons whose interests and practice patterns vary.
Fall,Spring,Summer
COM - M.D. Program

MDE 8662. Plastic and Reconstructive Surgery Elective
6(6,0) PR: Completion of M3 Core Clerkships. Rotation provides experience in cosmetic plastic surgery as well as reconstructive breast surgery. Students gain experience in advanced suturing skills and skin closure techniques.
Fall,Spring,Summer
COM - M.D. Program

MDE 8675. Urology Elective
6(6,0) Completion of M3. Elective in clinical urology with a focus on inpatient, outpatient and surgical aspects of urology.

COM - M.D. Program

MDE 8682. Introduction to Trauma and Surgical Critical Care Elective
6(6,0) Completion of M3 year This course will expose students to the multidisciplinary nature of modern trauma care while providing ample opportunity to learn and understand core principles of trauma, critical care, and emergency general surgery.
Fall,Spring,Summer
COM - M.D. Program

MDE 8683. Trauma and Orthopaedics Elective
6(6,0) PR: Successful completion of M3 core clerkships. The course is designed to present to the student the basic aspects of orthopaedic care.
Fall,Spring,Summer
COM - M.D. Program

MDE 8700. Anesthesia Elective
6(6,0) Completion of M3. With a combination of clinical and didactic experiences, students will learn the role play as perioperative physicians, intensivist, and pain management specialists.

COM - M.D. Program

MDE 8702. Anesthesia Elective at VA
6(6,0) Completion of M3. Medical students will learn the multi-faceted role anesthesiologists play in medicine as perioperative physicians and pain management specialists.

COM - M.D. Program

MDE 8710. Emergency Medicine Elective
6(6,0) PR: Completion of M3 Core Clerkships. This course allows students with interest in EM to fully explore the reality of being an Emergency Physician within a busy Emergency Department. There will be opportunity to participate in the management of all ED patients from the critically ill to the minor complaints.
Fall,Spring,Summer
COM - M.D. Program

MDE 8760. Elective in Radiology
VAR(3-6,0) PR: Successful completion of M3 core clerkships. Student will rotate with radiologists at APH or ORMC. Exposure to subspecialties within radiology including interventional, neuroradiology, pediatric, GI/GU, oncology and trauma.
Fall,Spring,Summer
COM - M.D. Program

MDE 8763. Diagnostic Radiology Clerkship
6(6,0) PR: Completion of M3 Core Clerkships. In-depth exposure to diagnostic radiology.
Fall,Spring,Summer
COM - M.D. Program

MDE 8767. Neuro-Radiology
VAR(3-6,0) PR: Successful completion of M3 core clerkships. Evaluation and interpretation of modalities used to image the central nervous system.
Fall,Spring,Summer
COM - M.D. Program

MDE 8769. Pediatric Radiology Elective
VAR(3-6,0) PR: Successful completion of M3 core clerkships. Provides an in-depth exposure and experience in pediatric radiology.
Fall,Spring,Summer
COM - M.D. Program

MDE 8773. Emergency Ultrasound Elective
6(6,0) Completion of the M3 academic year. This elective is intended to help integrate knowledge, skill and experience to perform and interpret ultrasound imaging at the patient's bedside.
Fall,Spring,Summer
COM - M.D. Program

MDE 8780. Radiation Oncology Elective
6(6,0) Completion of M3 core clerkships. This clinical rotation will involve exploring the field of radiation oncology through basics of cancer medicine, diagnosis of strategy and treatment of cancer, and radiation physics.
Fall,Spring,Summer
COM - M.D. Program

MDE 8807. Neuro-Oncology
VAR(3-6,0) PR: Successful completion of M3 core clerkships. Evaluation and clinical care of patients with brain tumors and neurological complications of cancer.
Fall,Spring,Summer
COM - M.D. Program

MDE 8820. Interventional Pain Medicine Elective
6(6,0) Completion of M3 year Four-week elective rotation providing clinical experience in an outpatient setting in the field of interventional medicine.
Fall,Spring,Summer
COM - M.D. Program

MDE 8835. M4 Acting Internship Psychiatry VA Residential Care at Domiciliary
6(6,0) PR: Successful completion of M3 core clerkships. Responsibility for clinical assessment and treatment planning for residential care patients with special emphasis on substance related disorders and PTSD at VA Medical Center Domiciliary.
Fall,Spring,Summer
COM - M.D. Program

MDE 8836. Psychiatry Elective
6(6,0) Completion of M3 academic year and instructor consent. Responsibility for clinical assessment and treatment planning for residential care patients.
Fall,Spring,Summer
COM - M.D. Program

MDE 8838. Clinical Psychiatric Pharmacology
6(6,0) PR: Successful completion of M3 core clerkships. Provides an in-depth exposure and experience in psychiatric pharmacology protocols.
Fall,Spring,Summer
COM - M.D. Program

MDE 8844. Post-Traumatic Stress Disorder Clinic
6(6,0) Completion of the M3 academic year; Instructor consent; UCF COM students only. Participate in the assessment and treatment of patients with combat-related post-traumatic stress disorder. Experiences may include diagnostic assessments, assisting in conducting individual and group treatments and participating in ongoing research protocols.
Fall,Spring,Summer
COM - M.D. Program

MDE 8870. Child Psychiatry
6(6,0) Completion of the M3 academic year, instructor consent, and completion of core Psychiatry clerkship. This elective is only for students considering residency training in Psychiatry. Clinical assessment and treatment experience with child and adolescent patients in a tertiary care hospital gives students a chance to manage complex cases with multidisciplinary teams of providers.
Fall,Spring,Summer
COM - M.D. Program

MDE 8883. Geriatric Psychiatry Elective
6(6,0) PR: Successful completion of M3 core clerkships. Responsibility for clinical mental health assessment and treatment.
Fall,Spring,Summer
COM - M.D. Program

MDE 8900. Directed Study/Independent Study
VAR(VAR,VAR) PR: Prior approval required. Individual study by students under the direction of a faculty member and with the approval of the Assistant Dean of Medical Education and the Associate Dean of Students. Topics vary and will be selected on an individual basis. Credit hours and student level may vary.
Fall,Spring,Summer
COM - M.D. Program

MDI 8120. Acting Internship in Family Medicine
6(6,0) PR: Successful completion of M3 clerkships. This four week experience will provide advanced clinical training in the care of patients of all ages in the hospital and clinic settings.
Fall,Spring,Summer
COM - M.D. Program

MDI 8160. Acting Internship in Obstetrics and Gynecology
6(6,0) Completion of Core Clerkship in Obstetrics & Gynecology. Experience comparable to a month of obstetrics and gynecology internship, during which the student will function as an intern under the supervision of the senior resident/s and attending physician.

COM - M.D. Program

MDI 8162. Acting Internship in Benign Gynecology
6(6,0) PR: Successful completion of M3 clerkships. Experience comparable to a month of gynecologic internship, during which the student will function as an intern under supervision of senior resident(s) and attending physician.
Fall,Spring,Summer
COM - M.D. Program

MDI 8164. Acting Internship in Gynecologic Oncology
6(6,0) PR: Successful completion of M3 core clerkships. Provides an in-depth exposure and experience in gynecologic oncology.
Fall,Spring,Summer
COM - M.D. Program

MDI 8165. Acting Internship in Obstetrics
6(6,0) PR: Successful completion of M3 clerkships. Experience comparable to a month of obstetric internship, during which the student will function as an intern under the supervision of the senior resident and attending physician.
Fall,Spring,Summer
COM - M.D. Program

MDI 8200. Acting Internship in Internal Medicine
6,(6,0) PR: Successful completion of M3 core clerkships. This four week experience will provide advanced clinical training in the outpatient care of adult medical patients.
Fall,Spring,Summer
COM - M.D. Program

MDI 8201. Acting Internship Internal Medicine, Inpatient
6(6,0) PR: Successful completion of M3 core clerkships. This four week experience will provide advanced clinical training in the care of adult medical patients in the inpatient and outpatient settings.
Fall,Spring,Summer
COM - M.D. Program

MDI 8247. AI in Medicine Critical Care and Pulmonary Diseases
6(6,0) Completion of M3. Immerses the student In the care MICU patients by focusing technology, multidisciplinary personnel, and physiologic, goal-oriented, humanistic practice in critical illness.
Fall,Spring,Summer
COM - M.D. Program

MDI 8300. Acting Internship in Allergy/Asthma/Immunology
6(6,0) Completion of the M3 year. The student will see patients with allergy disorders in the outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDI 8340. Acting Internship in Internal Medicine Acute Care
6(6,0) PR: Successful completion of M3 core clerkships. This four week experience will provide advanced clinical training in the care of acutely ill hospitalized adult medical patients.
Fall,Spring,Summer
COM - M.D. Program

MDI 8342. Acting Internship in Critical Care
6(6,0) PR: Successful completion of M-3. Immerses the student in the care of patients by focusing technology, multidisciplinary personnel, and physiologic, goal-oriented, humanistic practice in critical illness
Fall,Spring,Summer
COM - M.D. Program

MDI 8343. Acting Internship in Surgery Critical Care
6(6,0) Completion of M3. Immerses the student in the care of SICU patients by focusing technology, multidisciplinary personnel, and physiologic, goal-oriented, humanistic practice in critical illness.
Fall,Spring,Summer
COM - M.D. Program

MDI 8344. Acting Internship in Medicine Critical Care
6(6,0) Completion of M3. Immerses the student in the care of MICU patients by focusing technology, multidisciplinary personnel, and physiologic, goal-oriented, humanistic practice in critical illness.
Fall,Spring,Summer
COM - M.D. Program

MDI 8400. Acting Internship in General Pediatrics Inpatient
6(6,0) PR: Successful completion of M3 core clerkships. This elective is designed to acquaint the student with the management of acute pediatric illness in the hospital setting.
Fall,Spring,Summer
COM - M.D. Program

MDI 8461. Acting Internship in Neonatal ICU
6(6,0) Completion of M3. This acting internship is designed to expose the student to normal physiology and a wide variety of diseases that affect the term and preterm newborn.
Fall,Spring,Summer
COM - M.D. Program

MDI 8463. Acting Internship in Pediatric Critical Care
6(6,0) Completion of M3. Immerses the student in the care PICU patients by focusing technology, multidisciplinary personnel. and physiologic, goal-oriented, humanistic practice in critical illness.
Fall,Spring,Summer
COM - M.D. Program

MDI 8470. Acting Internship in Pediatric Neurology/Epilepsy
6(6,0) Completion of Core Clerkship in Neurology. C.I. Evaluate treatment of inpatient and outpatient Pediatric Neurology patients, with exposure to acutely ill patients in ICU to evaluations of Epilepsy/Seizures, Movement Disorders and Headache.

COM - M.D. Program

MDI 8490. Acting Internship Pediatric Surgery
6(6,0) PR: Successful completion of M3 core clerkships. The fourth year medical student on Pediatric Surgery (AI) will build upon their surgical clerkship experience with exposure to the workup, diagnosis and treatment/follow-up of surgical diseases involving neonates, infants and children in both the inpatient and outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDI 8570. Acting Internship in Pediatric Orthopedic Surgery
6(6,0) Completion of M3 academic year. The student in AI Pediatric Orthopedic Surgery will be focused on the orthopedic surgical care of children. He/she will lead the orthopedic surgical service in the outpatient and inpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDI 8600. Acting Internship in General Surgery
6(6,0) PR: Successful completion of M3 core clerkships. Completion of core clerkship in surgery. The fourth year medical student on the General Surgery Acting Internship will build upon the surgical core M3 rotation and further explore the workup, diagnosis and treatment/follow-up of surgical diseases in both the inpatient and outpatient setting.
Fall,Spring,Summer
COM - M.D. Program

MDI 8650. Acting Internship in Neurosurgery
6(6,0) Completion of M3. C.I. This four-week experience will provide advanced clinical training to prepare the 4th-year medical student for the rigors of surgical internship (with neurosurgical focus).

COM - M.D. Program

MDI 8676. Acting Internship Colon and Rectal Surgery
6(6,0) PR: Successful completion of M3 core clerkships. The fourth year medical student on the colon and rectal surgery acting internship will build upon the surgical core M3 rotation and further explore the workup, diagnosis and treatment/follow-up of surgical diseases involving the colon, rectum and anus in both the inpatient and out0patient settings.
Fall,Spring,Summer
COM - M.D. Program

MDI 8710. Acting Internship in Emergency Medicine
6(6,0) Completion of M3 clerkships This four-week rotation introduces the student to initial evaluation, workup, diagnostic ordering and treatment of patients presenting in the emergency department.
Fall,Spring,Summer
COM - M.D. Program

MDI 8802. Acting Internship in Clinical Neurological Ophthalmology
6(6,0) Completion of the M3 year. An eye clinic based experience where students will master ophthalmoloscopy, ophthalmic examination skills, and participate in general and specialty eye surgery and clinics.
Fall,Spring,Summer
COM - M.D. Program

MDI 8833. Acting Internship Psychiatry Advanced Therapies
6(6,0) PR: Successful completion of M3 core clerkships. Clinical assessment and treatment experience with child, adolescent and adult populations with treatment-resistant, "dual diagnoses" (psychiatric comorbidities) in residential and day treatment settings.
Fall,Spring,Summer
COM - M.D. Program

MDI 8840. Acting Internship in Psychiatry
6(6,0) PR: Successful completion of M3 clerkships. Increased level of responsibility for clinical assessment and treatment planning in walk-in/triage clinic at VA. Additional responsibility for teaching third year medical students.
Fall,Spring,Summer
COM - M.D. Program

MDI 8841. Acting Internship in Consultation Liaison Psychiatry
6(6,0) Completion of the M3 year. As acting interns, M4 students will be given progressive clinical responsibilities in the assessment and treatment of patients hospitalized on medical and surgical wards at the Lake Nona Orlando V.A. Medical Center that have concomitant psychiatric conditions.
Fall,Spring,Summer
COM - M.D. Program

MDI 8842. Acting Internship in Emergency Psychiatry
6(6,0) Completion of the M3 year. As acting interns, M4 students will be given progressive clinical responsibilities in the psychiatric assessment and treatment of patients presenting for urgent care at the Lake Nona Orlando V.A. Medical Center Emergency Room.
Fall,Spring,Summer
COM - M.D. Program

MDR 8250. Dermatology Research Elective
6(6,0) PR: Successful completion of M3 core clerkships. The student will have opportunities to work on one of several ongoing clinical research projects. In addition, the student may develop their own project or join onto an ongoing project co-sponsored through another medical school, a patient support group or a medical society.
Fall,Spring,Summer
COM - M.D. Program

MDR 8550. Ophthalmology Research Elective
VAR(3-6,0) PR: Successful completion of M3 core clerkships. Students will gain exposure to clinical trials, translational research and patient care in an ophthalmology subspecialty (retina) community-based practice.
Fall,Spring,Summer
COM - M.D. Program

MDR 8802. Neurodegenerative Disease: Research & Clinical Care
VAR(3-6,0) PR: Successful completion of M3 core clerkships. Evaluation, clinical care, and clinical research in neurodegenerative disease with special emphasis on Alzheimer's disease and Parkinson's disease.
Fall,Spring,Summer
COM - M.D. Program

MDR 8900. Independent Study/Research at UCF
VAR(VAR,VAR) PR: Successful completion of M3 core clerkships. Elective permits fourth year medical students to pursue, under the sponsorship of a UCF College of Medicine faculty member, areas of study/research that are not included among regular elective offerings.
Fall,Spring,Summer
COM - M.D. Program

MDX 8011. Extramural Clerkship
6(6,0) PR: Successful completion of M3 core clerkships. Extramural elective offers students the opportunity to gain experience at an LCME accredited medical school and its affiliated facilities. Interested students should contact the Office of Student Affairs for information regarding extramural (visiting) elective.
Fall,Spring,Summer
COM - M.D. Program

MDX 8900. Independent Study/Research Elective Away
6(6,0) PR: Successful completion of M3 core clerkships. Elective away permits fourth year medical students to pursue areas of study/research outside of UCF. Arrangements are made between the student, the away supervising faculty member and must be supervised by a UCF College of Medicine faculty member.
Fall,Spring,Summer
COM - M.D. Program

MHS 5005. Introduction to the Counseling Profession
3(3,0) PR: Completion of Phase II of Education Professional Preparation or C.I. Overview of the philosophy, organization, administration, and roles of counselors in various work settings.
Fall,Spring
ED - Department of Child, Family and Community Sciences

MHS 6020. Mental Health Care Systems
3(3,0) PR: MHS 5005 or C.I. Foundations of mental health counseling including organizational, administration, fiscal, and accountability structures.
Spring
ED - Department of Child, Family and Community Sciences

MHS 6070. Diagnosis and Treatment in Counseling
3(3,0) PR: MHS 6400, MHR 6401. Examines diagnosis in the assessment and treatment of mental disorders and the use of the DSM IV. Disorders reviewed with emphasis on symptoms and implications for treatment.
Fall
ED - Department of Child, Family and Community Sciences

MHS 6220. Individual Psychoeducational Testing I
3(3,0) An overview of appraisal instruments for individual testing with emphasis on administration, scoring, and interpretation. Designed for practitioners interested in understanding individual assessment.
Spring
ED - Department of Child, Family and Community Sciences

MHS 6221. Individual Psychoeducational Testing II
3(3,1) PR: C.I. Analysis of test theory and practice in administration, scoring, and interpretation of tests assessing achievement, visual-motor and cognitive ability, adaptive behavior, and self-concept.
Occasional
ED - Department of Child, Family and Community Sciences

MHS 6245. Assessment and Treatment in Addictions
3(3,0) PR: Graduate standing or C.I. Application of assessment and treatment models in addictions, and the ethical application of services to support persons with addictions and chemical dependency and their families.

ED - Department of Child, Family and Community Sciences

MHS 6400. Theories of Counseling and Personality
3(3,0) PR: MHS 5005 or MHS 6020, EDF 6481, or C.I. Major theories and approaches to counseling, correlating them with counterpart theories of personality and learning.
Fall,Spring
ED - Department of Child, Family and Community Sciences

MHS 6401. Techniques of Counseling
3(1,2) PR: MHS 6400 or C.I. The nature of counseling and its relationships to theoretical concepts.
Fall,Spring,Summer
ED - Department of Child, Family and Community Sciences

MHS 6403. Group and Family Play Therapy
3(3,0) MHS 6421. This practical course provides an overview of using different mediums of play therapy, including expressive arts, groups of children, and families for a systemic approach.
Spring
ED - Department of Child, Family and Community Sciences

MHS 6407. Counseling for Wellness
3(3,0) PR: C.I. Introduction to wellness concepts and topics in counseling including spirituality, health, stress research, positive assessment and others.
Odd Fall
ED - Department of Child, Family and Community Sciences

MHS 6420. Foundations of Multicultural Counseling
3(3,0) PR: MHS 5005 or C.I. Reviews knowledge and research pertaining to multicultural counseling and social justice issues, develops skills and personal awareness, and examines attributes that affect counseling diverse populations.
Occasional
ED - Department of Child, Family and Community Sciences

MHS 6421. Foundations of Play Therapy and Expressive Arts
3(3,0) PR: Graduate standing or C.I. This course addresses the theories and application of principles of play and expressive arts in the counseling process with children.
Fall,Summer
ED - Department of Child, Family and Community Sciences

MHS 6422. Advanced Theories and Techniques of Play Therapy
3(3,0) PR: MHS 6421. This course provides an in-depth study of play therapy counseling theories, utilizing didactic and experiential mediums to enhance the students' development of play therapy skills.
Fall
ED - Department of Child, Family and Community Sciences

MHS 6424. Filial Therapy
3(3,0) PR: MHS 6421. This course teaches students how to include parents in the play therapy process through learning a specific model of filial in a 10-week group experience.
Spring
ED - Department of Child, Family and Community Sciences

MHS 6430. Family Counseling I
3(1,2) PR: MHS 5005 or MHS 6020 or C.I. Presentation of specific family counseling theories. An evolution and current state of the art.
Fall
ED - Department of Child, Family and Community Sciences

MHS 6431. Family Counseling II
3(1,2) PR: MHS 6430, EDF 6481, or C.I. Presentation of techniques to work with entrenched, paradoxical, and ❓fixed❓ family systems that pose problems for the family and the counselor.
Fall
ED - Department of Child, Family and Community Sciences

MHS 6433. Developmental Process of the Resilient Family
3(3,0) C.I. This course will examine models that focus on the resiliency of families throughout the life cycle and implications in counseling.
Occasional
ED - Department of Educational and Human Sciences

MHS 6440. Couples Counseling
3(3,0) PR: Graduate standing or C.I. Overview of couple counseling theory and technique. In addition, the course covers special problems and stressors in the couple relationship.
Summer
ED - Department of Child, Family and Community Sciences

MHS 6450. Addictions Counseling
3(3,0) PR: Graduate standing or C.I. Examination within systematic, theoretical framework of the function that a substance, individual, and the environment play in use and abuse of illicit and licit substances.
Fall,Even Spring
ED - Department of Child, Family and Community Sciences

MHS 6465. Counseling Victims and Perpetrators of Family Violence
3(3,0) Examination of counseling interventions used with victims and perpetrators of family violence.
Occasional
ED - Department of Child, Family and Community Sciences

MHS 6470. Human Sexuality and Relationships
3(3,0) A basic course in understanding how human beings form intra- and interpersonal relationships and how sexuality develops.
Fall
ED - Department of Child, Family and Community Sciences

MHS 6500. Group Procedures and Theories in Counseling
3(3,0) PR: MHS 6401. This course is designed to give the student an understanding of the role of theories in group counseling as well as the many process applications of groups.
Fall,Spring,Summer
ED - Department of Child, Family and Community Sciences

MHS 6510. Advanced Group Counseling
3(1,2) PR: MHS 6500 or C.I. This course is designed to give students practical experience in leading groups. It is also intended to challenge students to explore professional and advanced issues in group counseling.
Spring
ED - Department of Child, Family and Community Sciences

MHS 6600. Consultation, Staffing, and Case Management
3(2,0) MHS 6500 or C.I. Understanding the counselor►s role as consultant and staffing team member. Study of case management procedures.
Occasional
ED - Department of Educational and Human Sciences

MHS 6702. Ethical & Legal Issues
3(3,0) PR: C.I. Studies of ethical standards and legal issues in counseling and other human service professions.
Odd Summer
ED - Department of Child, Family and Community Sciences

MHS 6803. Practicum in Counselor Education
3(3,0) PR: MHS 5005, MHS 6400, MHS 6401, MHS 6500, C.I. Supervised counseling emphasizing competence in (1) individual counseling (2) working with groups (3) tests in educational-career-personal counseling. May be repeated for credit.
Odd Fall,Even Spring,Odd Summer
ED - Department of Child, Family and Community Sciences

MHS 6830. Counseling Internship
1-6(1,1-6) PR: C.I. Supervised placement in setting appropriate for program track. May be repeated for credit.
Fall,Spring,Summer
ED - Department of Child, Family and Community Sciences

MHS 6930. Current Trends in Counselor Education
3(3,0) MHS 5005 or 6500 or C.I. Current trends affecting the rapid changes in the counseling field.
Occasional
ED - Department of Educational and Human Sciences

MHS 7311. Professional Issues in Counselor Education II
3(3,0) MHS 7700 or C.I. Advanced emphasis on the major roles, responsibilities, and activities of counselor educators, including a variety of techniques in teaching, research, consultation, grants, advocacy, and counseling.
Spring
ED - Department of Child, Family and Community Sciences

MHS 7340. Advanced Career Development
3(3,0) PR: Admission to PhD in Education. An advanced study of career development theories, occupational and educational information, approaches to career decision-making, lifestyle and leisure in the development of the whole person.
Spring
ED - Department of Child, Family and Community Sciences

MHS 7406. Advanced Theories in Counseling
3(3,0) PR: Admission to PhD program in Education--Counselor Education track. Examination of counseling theories including historical foundations and emerging theories.
Fall
ED - Department of Child, Family and Community Sciences

MHS 7611. Supervision in Counselor Education
3(3,0) PR: Admission to PhD in Education--Counselor Education track. An examination of the process and various theories of supervision in counselor education.
Summer
ED - Department of Child, Family and Community Sciences

MHS 7700. Professional Issues in Counselor Education
3(3,0) PR: Admission to PhD program in Education--Counselor Education track. Emphasis on professional issues related to counselor education including teaching, research, and service.
Spring
ED - Department of Child, Family and Community Sciences

MHS 7730. Research Seminar in Counselor Education
3(3,0) PR: Admission to PhD in Education. An examination of outcome research design, methodological issues and empirical basis of counseling.
Even Summer
ED - Department of Child, Family and Community Sciences

MHS 7801. Advanced Practicum in Counselor Education
3(3,0) PR: Admission to PhD program in Education--Counselor Education track. This course provides advanced graduate students an opportunity to demonstrate and develop counseling skills.
Occasional
ED - Department of Child, Family and Community Sciences

MHS 7808. Practicum in Counseling Supervision
3(3,0) PR: Admission to PhD program in Education. Integration of theory and practice in counseling supervision.
Summer
ED - Department of Child, Family and Community Sciences

MHS 7840. Internship in Counselor Education
3(3,0) PR: Admission to PhD program in Education--Counselor Education track. Examine and practice the various roles within a Counselor Education program under direct supervision.
Fall,Spring
ED - Department of Child, Family and Community Sciences

MLS 6943. Advanced Specialization in Immunohematology: Practice
3(3,0) Acceptance in the Specialist in Blood Banking program. Supervised practice in donor recruitment, phlebotomy, donor testing. Component preparation, HLA typings, transfusion service and management in the community blood center.

COM - Department of Molecular and Microbiology

MMC 6202. Legal and Ethical Issues for Communication
3(3,0) A study of social, ethical and legal issues for Communications practitioners and the impact on media consumers.
Occasional
COS - Nicholson School of Communication

MMC 6266. Communications Convergence and Media Planning
3(3,0) PR: Admission to Communication M.A. or program consent. Communications convergence and organizational change: new paradigms and media management techniques in a digital age.
Occasional
COS - Nicholson School of Communication

MMC 6307. International Communication
3(3,0) Case studies on global communication, coping with cultures, communicating across cultures, global media, global news flow and persuasive communication. May be repeated for credit.
Occasional
COS - Nicholson School of Communication

MMC 6402. Mass Communication Theory
3(3,0) A study of mass communication theory and research traditions.
Fall
COS - Nicholson School of Communication

MMC 6407. Visual Communication Theory
3(3,0) A study of the visual world as it relates to theories of visual interpretation.
Occasional
COS - Nicholson School of Communication

MMC 6445. Quantitative Research Methods in Mass Communication
3(3,0) PR: Admission to Communication MA or program consent. Examination of quantitative methods in mass communication. Topics include experimental research design, sampling procedures, and introduction to data analysis.
Fall
COS - Nicholson School of Communication

MMC 6446. Qualitative Research Methods in Mass Communication
3(3,0) PR: Admission to Communication M.A. or program consent. Examination of qualitative research methods in mass communication with emphasis on interviewing, observational methods, and data interpretation.
Spring
COS - Nicholson School of Communication

MMC 6567. Seminar in New Media
3(3,0) A study of the development and convergence of new technologies and their mediation.
Occasional
COS - Nicholson School of Communication

MMC 6600. Media Effects and Audience Analysis
3(3,0) A study of the effects of communication on society emphasizing the research in media effects.
Occasional
COS - Nicholson School of Communication

MMC 6607. Communication and Society
3(3,0) The importance of the mass media, their structure, role, and problems.
Occasional
COS - Nicholson School of Communication

MMC 6612. Communication and Government
3(3,0) A study of the relationship between the media and government.
Occasional
COS - Nicholson School of Communication

MMC 6735. Social Media as Mass Communication
3(3,0) COM 6008 or C.I. Overview of social media and its role in mass communication and society. A particular emphasis on scholarship and practice in corporate communication.
Occasional
COS - Nicholson School of Communication

MTG 5253. Introduction to Differential Geometry
3(3,0) PR: MAC 2313 or equivalent or C.I. Curves and surfaces in 2D and 3D, covariant derivative of a vector field, geodesics, Gauss-Bonnet Theorem.
Fall
COS - Department of Mathematics

MTG 5256. Differential Geometry
3(3,0) PR: MAA 4227, graduate status or senior standing, or C.I. Differentiable manifolds, tangent space and tangent bundle, flows and vector fields, Lie derivatives, cotangent space and cotangent bundles, Riemann metrics, connections and geodesics, applications in classical mechanics.
Occasional
COS - Department of Mathematics

MUC 5112. Composition V
2(1,0) PR: Graduate standing in music education or C.I. Advanced music composition at the graduate level. May be used in the degree program a maximum of 4 times.

CAH - Department of Music

MUC 6251. Composition VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study in musical composition. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MUE 5348C. K-12 Music Methods
4(4,0) PR: Graduate standing in Music Education or C.I. Organization and administration of instruction for comprehensive music education, K-12. Instructional planning, techniques, and materials for general, choral, and instrumental music education.
Spring
CAH - Department of Music

MUE 5921. Music Education Workshop
2(2,0) PR: Graduate standing or C.I. Variable topics in Music Education to offer hands-on instruction in a workshop format. May be used in the degree program a maximum of 4 times only when course content is different.
Summer
CAH - Department of Music

MUE 6080. Foundations of Music Education
3(3,0) PR: Graduate standing in music. Study of significant historical events that have shaped music education along with important research and philosophical writings. Designed for online delivery.
Odd Fall
CAH - Department of Music

MUE 6175. Teaching Music Performance
3(3,0) PR: Graduate standing in M.A. or M.Ed. in Music Education or C.I. Techniques and skills for planning, administering and directing performing music organizations. Examination of historical, sociological and philosophical foundations of music education.
Summer
CAH - Department of Music

MUE 6349. Advanced General Music
3(3,0) PR: Basic Teacher Certificate or C.I. Analysis of current materials, new programs, and teaching techniques in general music, K-12. Emphasis on practical applications. Examinations of psychological foundations of music education.
Summer
CAH - Department of Music

MUE 6746. Assessment and Evaluation in Music Education
3(3,0) PR: Graduate standing in Music or C.I. Music learning theory and assessment in the K-12 music classroom.
Summer
CAH - Department of Music

MUE 6785. Introduction to Research in Music Education
3(3,0) PR: Graduate standing or C.I. Basic concepts of research in Music Education. Students will read, analyze, and discuss current research literature, and write research reports.
Occasional
CAH - Department of Music

MUE 6936. Current Topics in Music Education
3(3,0) PR: Graduate standing in Music or C.I. Study and application of current topics and issues in music education. May be used in the degree program a maximum of 2 times only when course content is different.
Summer
CAH - Department of Music

MUE 6945. Practicum in Music Education
3(0,14) PR: Basic Teacher Certificate. MUE 6349, MUE 6610 and MUE 6630 or C.I. Field experience in teaching music. May be repeated for credit.

CAH - Department of Music

MUG 6106. Advanced Conducting I
3(3,0) PR: Graduate standing in MEd or MA in Music Education or C.I. Basic conducting practices including the application of theory and personal musicianship skills.
Occasional
CAH - Department of Music

MUG 6306. Conducting VI
2(1,1) PR: Admission in MA in Music degree program and audition. Individual study of conducting large ensembles. Participation in assigned ensemble required. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MUH 5326. Medieval and Renaissance Music
3(3,0) PR: Graduate standing in music education or C.I. Music and culture of Western Europe in the era c. 450-1600.
Occasional
CAH - Department of Music

MUH 5345. Music of the Baroque
3(3,0) PR: Graduate standing in music or music education or C.I. Baroque music, 1600-1750. Investigates Baroque musical styles and composers within their diverse historical, musical, and cultural contexts.
Even Spring
CAH - Department of Music

MUH 5356. Eighteenth-Century Music
3(3,0) PR: Graduate standing in music education or C.I. Music and culture of Western Europe in the era c. 1700-1800
Occasional
CAH - Department of Music

MUH 5365. Music of the 19th Century
3(3,0) PR: Graduate standing in Music or C.I. Western Art Music of the 19th Century.
Odd Fall
CAH - Department of Music

MUH 5375. Music Since 1900
3(3,0) PR: Graduate standing in Music Education or C.I. Music and culture of Western and American art Music from c. 1900 to the present.

CAH - Department of Music

MUH 5665. Development of Opera
3(3,0) PR: Graduate standing in Music or C.I. An in-depth examination of Western European opera, from its origins around 1600 until the present day.
Even Spring
CAH - Department of Music

MUH 5816. Jazz Styles and Analysis
3(3,0) PR: Graduate standing or C.I. Advanced study of historical style periods and master artists in jazz music.
Odd Fall
CAH - Department of Music

MUH 6916. Music Bibliography and Research
3(3,0) PR: Admission into MA in Music degree program or C.I. Materials and techniques used in scholarly research in music.
Odd Fall
CAH - Department of Music

MUH 6935. Music History Seminar
3(3,0) PR: MUH 6916 or C.I. Seminar on selected topics in music history and literature. May be used in the degree program a maximum of 3 times.
Odd Fall
CAH - Department of Music

MUL 5436. Guitar Literature and Pedagogy
3(3,0) PR: Graduate standing in Music or C.I. Survey of significant repertoire and pedagogy for classical guitar.
Odd Spring
CAH - Department of Music

MUL 5439. String Literature and Pedagogy
3(3,0) PR: Graduate standing in Music or C.I. Study of string literature from the Baroque period to the 20th century, along with prominent pedagogical principles.
Odd Fall
CAH - Department of Music

MUL 5447. Woodwind Literature and Pedagogy
3(3,0) PR: Graduate standing in Music or C.I. Major works written for woodwind instruments, as well as the study of the basic concepts and techniques fundamental to teaching woodwind instruments.
Odd Spring
CAH - Department of Music

MUL 5448. Brass Literature and Pedagogy
3(3,0) PR: Graduate standing in Music or C.I. Significant brass repertoire, study materials and a review of teaching techniques for artistic brass performance.
Even Fall
CAH - Department of Music

MUL 5555. Band Literature
3(3,0) Graduate standing or C.I. Survey of materials for use in the public school band classroom, including beginning band methods, technique books, and musical selections appropriate for concert performance.
Occasional
CAH - Department of Music

MUL 5645. Choral Literature
3(3,0) Graduate standing or C.I. Survey of choral music from its beginnings to the present with consideration of historical perspective; genres, styles and performance practice; major composers and representative works.
Occasional
CAH - Department of Music

MUM 5806. Performing Arts Management
3(3,0) PR: Graduate standing or senior standing or C.I. Structure of nonprofit performing arts organization (PAOs), examining the fundamental elements of administration, audience development, marketing, and fund-raising.
Spring
CAH - Department of Music

MUN 5125. Concert Band
1(0,3) PR: Open to all graduate students by audition. Study and performance of music for large ensembles. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MUN 5145. Wind Ensemble
1(0,4) PR: Open to all graduate students by audition. Study and performance of music for wind ensemble and band. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MUN 5215. Symphony Orchestra
1(0,5) PR: Open to all graduate students by audition. Rehearsal and performance of works from the symphonic repertoire. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MUN 5325. Women's Chorus
1(0,3) PR: Open to all graduate students by audition. Study and performance of choral music for women's voices. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MUN 5368L. Graduate Chamber Singers
1(0,3) PR: Graduate standing in Music Education and C.I. A select, mixed choir that explores music appropriate to a small, advanced ensemble, and performs in the Orlando area each semester. May be used in the degree program a maximum of 5 times.
Fall,Spring
CAH - Department of Music

MUN 5385L. Graduate University Chorus
1(0,3) PR: Graduate standing in Music Education and C.I. Study and performance of large ensemble music. May be used in the degree program a maximum of 5 times.

CAH - Department of Music

MUN 5445. Percussion Ensemble
1(0,2) PR: Open to all graduate students by audition. Study and performance of music for small percussion ensembles. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MUN 5465L. Graduate Chamber Music
1(0,2) PR: Graduate standing in Music Education and C.I. The study and performance of vocal and/or instrumental chamber ensemble literature. Flexible instrumentation to meet student needs. May be used in the degree program a maximum of 5 times.

CAH - Department of Music

MUN 5478L. Early Music Ensemble
1(0,3) PR: Graduate standing in Music Education and C.I. Graduate ensemble experience with instruments and repertoire of the Medieval, Renaissance, and Baroque periods. May be used in the degree program a maximum of 5 times.

CAH - Department of Music

MUN 5715L. Jazz Ensemble
1(0,4) PR: Audition, graduate or senior standing, and C.I. Study and performance of jazz big band music. May be used in the degree program a maximum of 4 times only when course content is different.
Fall,Spring
CAH - Department of Music

MUN 5716L. Jazz Chamber Group
1(0,2) PR: Audition, graduate standing or senior standing, and C.I. Study and performance of jazz small group music. May be used in the degree program a maximum of 4 times.
Fall,Spring
CAH - Department of Music

MUO 5505L. Graduate Opera Workshop
1(0,3) PR: C.I. and audition. Study of audition techniques, operatic roles and repertoire, and characterization through performance. May be used in the degree program a maximum of 5 times.

CAH - Department of Music

MUS 5365. Music and Technology
3(3,0) PR: Graduate status or senior standing, or C.I. The emergence of technology in music including MIDI, CD ROM, and the high-tech music classroom.
Occasional
CAH - Department of Music

MUS 5677. Wellness for the Performing Musician
3(3,0) PR: Graduate standing in music education or C.I. Various techniques and methods of maintaining physical health and wellness for musicians.

CAH - Department of Music

MUS 6975L. Graduate Project
2(0,1) PR: Two semesters of graduate study in the appropriate area or C.I. Planning, researching, and creating a written document in a non-performance area in music, designed to serve as a cumulative synthesis of learning. Graded S/U.
Fall,Spring
CAH - Department of Music

MUS 6976L. Graduate Recital
2(0,1) PR: Two semesters of graduate level study in the appropriate area or C.I. Public performance in an area such as instrumental/vocal performance, conducting or composition, designed as a capstone experience. Graded S/U.
Fall,Spring
CAH - Department of Music

MUT 5316. Orchestration
3(3,0) PR: Graduate standing in Music or C.I. Study of the various instruments commonly found in orchestras and wind ensembles and how to write for these instruments in combination.
Odd Spring
CAH - Department of Music

MUT 5381. Arranging and Composing Music
3(3,0) Satisfactory placement tests in theory, sight-singing, and ear training, and graduate status or senior standing or C.I. Arranging and composing music for instrumental and vocal ensembles. Some emphasis on compositional techniques of the 20th century.

CAH - Department of Music

MUT 5445. Counterpoint
3(3,0) PR: Graduate standing in Music or C.I. Principles of counterpoint and the study of contrapuntal styles in Western music from the 16th century to the present day.
Even Spring
CAH - Department of Music

MUT 5620. Analysis of Twentieth Century Music
3(3,0) PR: Graduate standing in Music or C.I. Analysis of music in a selection of the different styles practiced in the 20th century, with an emphasis on Western art music.
Fall
CAH - Department of Music

MUT 5936. Music Theory Seminar
3(3,0) PR: Graduate standing in music education or C.I. One or more issues of importance in music theory with emphasis on recent scholarly literature and debates. May be used in the degree program a maximum of 4 times.

CAH - Department of Music

MUT 6621. Techniques and Concepts of Musical Analysis
3(3,0) PR: Admission into MA in Music or C.I. Advanced techniques in musical analysis.
Odd Fall
CAH - Department of Music

MVB 5451. Trumpet V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVB 5452. French Horn V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVB 5453. Trombone V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVB 5454. Baritone V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVB 5455. Tuba V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVB 6461. Trumpet VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of trumpet performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVB 6462. French Horn VI
2(1,1) PR: Admission into M.A. in Music degree program and audition. Intensive advanced study of French Horn performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVB 6463. Trombone VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of trombone performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVB 6464. Euphonium VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of euphonium performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVB 6465. Tuba VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of tuba performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVJ 5350C. Jazz Piano V
2(1,1) PR: Audition, graduate standing or senior standing, and C.I. Study of jazz piano literature, styles, and techniques. May be used in the degree program a maximum of 3 times.
Fall,Spring
CAH - Department of Music

MVJ 5353C. Jazz Guitar V
2(1,1) PR: Audition, graduate standing or senior standing, and C.I. Study of jazz guitar literature, styles and techniques. May be used in the degree program a maximum of 3 times only when course content is different.
Fall,Spring
CAH - Department of Music

MVJ 5354C. Jazz Bass V
2(1,1) PR: Audition, graduate standing or senior standing, and C.I. Study of jazz bass literature, styles and techniques. May be used in the degree program a maximum of 3 times only when course content is different.
Fall,Spring
CAH - Department of Music

MVJ 5359C. Jazz Drum Set V
2(1,1) PR: Audition, graduate standing or senior standing, and C.I. Study of jazz drum set literature, styles, and techniques. May be used in the degree program a maximum of 3 times only when course content is different.
Fall,Spring
CAH - Department of Music

MVJ 6369C. Jazz Drum Set VI
2(1,1) PR: Admission into the MA in Music and an audition. Advanced study of jazz drum set literature, styles and techniques; continuation of Jazz Drum Set V. May be used in the degree program a maximum of 3 times only when course content is different.
Fall,Spring
CAH - Department of Music

MVJ 6460C. Jazz Piano VI
2(1,1) PR: Admission to MA in Music and an audition. Advanced study of jazz piano literature, styles, and techniques; continuation of Jazz Piano V. May be used in the degree program a maximum of 3 times.
Fall,Spring
CAH - Department of Music

MVJ 6463C. Jazz Guitar VI
2(1,1) PR: Admission to the MA in Music and an audition. Advanced study of jazz guitar literature, styles and techniques; continuation of Jazz Guitar V. May be used in the degree program a maximum of 3 times only when course content is different.
Fall,Spring
CAH - Department of Music

MVJ 6464C. Jazz Bass VI
2(1,1) PR: Admission into the MA in Music and an audition. Advanced study of jazz bass literature, styles and techniques; continuation of Jazz Bass V. May be used in the degree program a maximum of 3 times only when course content is different.
Fall,Spring
CAH - Department of Music

MVJ 6952. Jazz VI
2(1,1) PR: Admission into M.A. in Music degree program and audition. Intensive advanced study of jazz performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVK 5451. Piano V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVK 5650. Piano Pedagogy
2(2,0) PR: Graduate standing in Music or C.I. Techniques, methods, and experiences of former and current pedagogues to equip students for current or future piano teaching.
Even Spring
CAH - Department of Music

MVK 6461. Piano VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of piano performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVO 5250. Advanced Secondary Instruction
1(1,0) PR: Graduate status or senior standing, and C.I. Advanced instructional techniques on a secondary instrument or in voice. May be repeated for credit.
Occasional
CAH - Department of Music

MVP 5451. Percussion V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVP 6461. Percussion VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of percussion instruments. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVS 5451. Violin V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVS 5452. Viola V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVS 5453. Cello V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVS 5454. Bass V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVS 5455. Harp V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVS 5456. Guitar V
2(1,0) PR: Graduate status or senior standing and C.I. May be used in the degree program a maximum of 4 times.
Fall,Spring
CAH - Department of Music

MVS 6461. Violin VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of violin performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVS 6462. Viola VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of viola performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVS 6463. Cello VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of cello performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVS 6465. Harp VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of harp performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVS 6466. Classical Guitar VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of classical guitar performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVS 6467. Bass VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of string bass performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVV 5451. Voice V
2(1,0) PR: Graduate standing or senior standing and C.I. May be used in the degree program a maximum of 4 times.
Fall,Spring
CAH - Department of Music

MVV 5651. Voice Pedagogy
2(3,0) PR: Graduate standing in Music or C.I. Vocal function, anatomy, and pedagogical methodology with application to the voice teacher and performer.
Odd Spring
CAH - Department of Music

MVV 6452. Voice VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of vocal performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVW 5451. Flute V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVW 5452. Oboe V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVW 5453. Clarinet V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVW 5454. Bassoon V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVW 5455. Saxophone V
2(1,0) PR: Graduate status or senior standing and C.I. May be repeated for credit.
Fall,Spring
CAH - Department of Music

MVW 6461. Flute VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of flute performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVW 6462. Oboe VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of oboe performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVW 6463. Clarinet VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of clarinet performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVW 6464. Bassoon VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of bassoon performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

MVW 6465. Saxophone VI
2(1,1) PR: Admission into MA in Music degree program and audition. Intensive advanced study of saxophone performance. May be used in the degree program a maximum of 4 times.
Odd Fall
CAH - Department of Music

NGR 5003. Advanced Health Assessment and Diagnostic Reasoning
2(2,0) PR: or CR: NGR 5141; CR: NGR 5003L. Admission to the M.S. in Nursing or Doctor of Nursing Practice program tracks or C.I. Concepts and skills of advanced health assessment over the lifespan. Application of the diagnostic reasoning process through differential diagnoses. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 5003L. Advanced Health Assessment and Diagnostic Reasoning Lab
1(0,1) PR or CR: NGR 5141; CR: NGR 5003. Admission to the M.S. in Nursing or Doctor of Nursing Practice tracks or C.I. Application of concepts and skills for advanced health assessment and diagnostic reasoning over the lifespan. May be used in the degree program a maximum of two times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 5090. Urgent Care for the Advanced Practice Nurse
3(3,0) NGR 6240 or C.I. Advanced practice evaluation and management of clients in urgent care settings.
Occasional
CON - Department of Nursing

NGR 5141. Pathophysiological Bases for Advanced Nursing Practice
3(3,0) PR: Admission to M.S. in Nursing or Doctor of Nursing Practice program or C.I. Critical examination of the physiological and pathophysiological mechanisms affecting individuals. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 5190. Core Clinical Concepts for Nurse Educators
3(3,0) Admission to the Graduate Nursing Program or C.I; NGR 5141 or equivalent. Integrate concepts of Pharmacology and Health Assessment. Provides the foundation for Advanced Nursing Practice within the Nurse Educator role.
Fall,Spring
CON - Department of Nursing

NGR 5638. Health Promotion
3(3,0) PR: Admission to M. S. in Nursing or Doctor of Nursing Practice or C.I. Exploration and analysis of concepts, theories, research evidence, clinical assessment and interventions for health promotion and wellness. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 5660. Health Disparities: Issues and Strategies
3(3,0) PR: Graduate standing. Explores disparities in access, utilization, services, outcomes, and status for different U.S. populations: data, research, programmatic issues, and strategies to close the gaps. May be used in the degree program a maximum of 2 times.
Occasional
CON - Department of Nursing

NGR 5690. Interdisciplinary Care at End-of-Life
3(3,0) PR: Graduate status or C.I. Examination of interdisciplinary roles and strategies for enabling patients, families; and caregivers to approach end-of-life free from avoidable distress and suffering. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 5720. Organizational Dynamics
3(3,0) PR: Baccalaureate degree in Nursing or C.I. Analysis of organizational theories related to health care organizations and the use of leadership, communication and power to influence health care delivery and policy. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 5800. Theory for Advanced Practice Nursing
3(3,0) PR: Baccalaureate degree in Nursing or C.I. Conceptual and theoretical bases of nursing practice and research with emphasis on scholarly writing and critique. May be used in the degree program a maximum of 2 times.
Fall,Spring
CON - Department of Nursing

NGR 5871. Health Care Informatics
3(3,0) PR: Baccalaureate in health related field or C.I. Use of information systems, clinical data management, communication strategies, and decision-making models. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 5884. Legal and Professional Behavior in Advanced Practice Nursing
3(3,0) PR: Graduate standing and admission to the M.S. in Nursing or Doctor of Nursing Practice program. Examination of legal, ethical, cultural, and political issues related to professional advanced practice nursing. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 5894C. International Perspectives of Global Health
3(2,1) Graduate standing or C.I. An analysis of global health in comparison with that of USA and other nation's health care systems.
Occasional
CON - Department of Nursing

NGR 6063C. Advanced Skills for the Management of Illness and Injuries
3(2,1) PR: Admission to the Doctor of Nursing Practice program or a Nurse Practitioner certificate track. Completion of one clinical course or C.I. Development of theoretical, and clinical skills for the evaluation, diagnosis, and management of illnesses and injuries. May be used in the degree program a maximum of 2 times.
Fall,Spring
CON - Department of Nursing

NGR 6105. Management of Symptoms and Outcomes of Disease
3(3,0) PR: or CR: NGR 5141 or C.I. Focused examination of the concepts, theories and research evidence that provide the basis for assessment and management of the patient experiences related to disease outcomes. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 6172. Pharmacology for Advanced Nursing Practice
3(3,0) PR: NGR 5141 or C.I. Comprehensive study of medications used in the promotion and maintenance of health across the lifespan. Examination of the implications for advanced nursing practice. May be used in the degree program a maximum of 2 times.
Fall,Spring
CON - Department of Nursing

NGR 6175. Critical Care Pharmacology
3(3,0) NGR 6172 Pharmacology for Advanced Nursing Practice. Provides a general overview of the pharmacologic agents unique to the care of the critically ill and medically-complex unstable adult-gerontology client.
Fall,Spring,Summer
CON - All

NGR 6186. Genetics and Genomics in Advanced Nursing Practice
3(3,0) PR: Baccalaureate degree in Nursing, NGR 5141 or approval of graduate coordinator or C.I. Application of genetics and genomic principles to advanced clinical nursing practice.
Fall,Spring,Summer
CON - Department of Nursing

NGR 6200. Gender Related Primary Care
2(2,0) PR: or CR: NGR 6172. CR: 6342L. Admission to the Doctor of Nursing Practice program, Family Nurse Practitioner or Adult/Gerontology Nurse Practitioner track; completion of NGR 5003; NGR 5003L; NGR 5141. Development of theoretical skills for evaluation, diagnosis, and management of the gender related health needs of men and women. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 6201. Adult I Primary Care
3(3,0) PR: Admission to the DNP program FNP or ANP track; completion of NGR 5003, NGR 5003L, NGR 5141, or C.I; CR: Adult I Primary Care Clinical, NGR 6172, or C.I. Development of theoretical skills for evaluation, diagnosis, and management of the primary care health needs of adults and communities. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6201L. Adult I Primary Care Clinical
2(0,2) CR: NGR 6201. Application of theory and skills for evaluation, diagnosis and management of the primary care health needs of adults and communities. Graded S/U. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6202. Adult II Primary Care
3(3,0) PR: NGR 6201, NGR 6201L; CR: NGR 6202L. Development of theoretical foundation for the evaluation, diagnosis, and management of the complex health needs of adults. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 6202L. Adult II Primary Care Clinical
2(0,2) PR: NGR 6201, NGR 6201L; CR: NGR 6202. Development of theoretical and clinical skills for evaluation, diagnosis, and management of the complex and long-term needs of adults. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 6210. Adult-Gerontology Acute Care Nurse Practitioner I
3(3,0) NGR 6172, NGR 5003/5003L; CR: NGR 6230L or C.I. Introduce graduate nursing students to the foundational concepts in acute and critical care patient management.
Fall,Spring,Summer
CON - All

NGR 6211. Adult-Gerontology Acute Care Nurse Practitioner II
3(3,0) NGR 6210, NGR 6230L; CR: NGR 6211L. Complex care of the stable and unstable adult-gerontology patient with complex cardiovascular, pulmonary, hematological, renal, and commonly occurring health care problems.
Fall
CON - All

NGR 6211L. Adult-Gerontology Acute Care Nurse Practitioner II Clinical
3(0,3) NGR 6210, NGR 6230L; CR: NGR 6211. Complex clinical care of the stable and unstable adult-gerontology patient with complex cardiovascular, pulmonary, hematological, renal, and commonly occurring health care problems.
Fall,Spring,Summer
CON - All

NGR 6212. Adult-Gerontology Acute Care Nurse Practitioner III
3(3,0) NGR 6211, NGR 6211L; CR: NGR 6212L. Complex care of the stable and unstable adult-gerontology patient with complex endocrine, neurologic, gastrointestinal and commonly occurring health care problems in acutely and critically ill young, middle and older adults.
Fall,Spring,Summer
CON - All

NGR 6212L. Adult-Gerontology Acute Care Nurse Practitioner III Clinical
3(0,3) NGR 6211, NGR 6211L; CR: NGR 6212. Complex clinical care of the stable and unstable adult-gerontology patient with common and complex occurring health care problems in acutely and critically ill young, middle and older adults.
Fall,Spring,Summer
CON - All

NGR 6215L. Adult-Gerontology Acute Care Nurse Practitioner Practicum
3(0,3) NGR 6212, NGR 6212L. Final clinical course covering care of the stable and unstable adult-gerontology patient with common and complex occurring health care problems in acutely and critically ill young, middle and older adults.
Fall,Spring,Summer
CON - All

NGR 6230L. Diagnostics and Skills for the Critically Ill
1(0,1) CR: NGR 6210. Introduce graduate nursing students to the skills and procedures used in the management of critically ill patients.
Fall,Spring,Summer
CON - All

NGR 6240. Adult I for APNs
3(3,0) PR: Admission to the Doctor of Nursing Practice program, Nurse Practitioner certificate, Family Nurse Practitioner or Adult Gerontology Nurse Practitioner tracks, NGR 5003, NGR 5003L. PR: or CR: NR 6172; CR: NGR 6240L. Development of theoretical skills for evaluation, diagnosis, and management of health needs of adults and communities. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6240L. Adult I Clinical for APNs
3(0,3) PR: Admission to M.S. in Nursing program, Nursing certificate, Adult Nurse Practitioner or Family Nurse Practitioner track. CR: NGR 6240. Application of skills for evaluation, diagnosis, and management of health needs of adults and communities.
Fall
CON - Department of Nursing

NGR 6248L. Family Nurse Practitioner/Adult-Gero Nurse Practitioner Practice Practicum
3(0,3) PR: Admission to M.S. in Nursing, Doctor of Nursing Practice, Clinical Nurse Specialist or Nurse Practitioner certificate. Can be started concurrently with final clinical course in program of study. (Varies with plan of study.). Supervised advanced clinical practice in the roles of the nurse practitioner in an individualized preceptorship. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 6249. Management of Common Health Problems of the Adult Patient
3(3,0) PR: NGR 5141; NGR 5003 & 5003L; PR: or CR: NGR 6801or C.I. Analysis of current practices in management of adult patients. Incorporates diagnostic reasoning, nursing management, and evidence-based practices. May be used in the degree program a maximum of 2 times.
Fall,Spring
CON - Department of Nursing

NGR 6263. Gerontologic Care for APNs
3(3,0) PR: Admission to the Doctor of Nursing Practice program, Adult/Gerontology Clinical Nurse Specialist, Family Nurse Practitioner or Adult/Gerontology Nurse Practitioner track; completion of NGR 5003, NGR 5003L, C.I. CR: NGR 6263L, or NGR 6264L. PR or CR: NGR 6172. Development of the theoretical skills for evaluation, diagnosis and management of the health needs of older adults and communities. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 6263L. Gerontologic Care Clinical for NPs
2(0,2) CR: NGR 6263. Development of clinical skills for evaluation, diagnosis, and management of the gerontologic health care needs common normal and abnormal variations in physical, cognitive, and psychologic states. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 6264L. Gerontologic Care Clinical for CNS
2(0,2) PR: NGR 6782 and NGR 6782L or C.I. CR: 6263. Development of Clinical Nurse Specialist skills in management of an elderly population with acute and chronic conditions. Graded S/U. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 6265. Adult/Gerontology CNS I
3(3,0) PR: NGR 5141; NGR 5003L; NGR 6874. Adult/Gerontology Clinical Nurse Specialist foundation. Role/scope of CNS; direct care/coaching focus. Health promotion and disease prevention across the adult lifespan. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6265L. Adult/Gerontology CNS I Clinical
3(0,3) CR: NGR 6265. Introduction to Adult/Gerontology CNS role; emphasis on direct care, coaching, systems leadership for health promotion and managing common problems. Graded S/U. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6266. Adult/Gerontology CNS II
3(3,0) PR: NGR 6265; NGR 6265L; NGR 6172; NGR 6801; NGR 5720. Continuation of Adult/Gerontology CNS I. Management of acute and/or complex problems; focus on research and ethical decision making. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 6266L. Adult/Gerontology CNS II Clinical
3(0,3) PR: NGR 6265; NGR 6265L; CR: NGR 6266. Continued development of Adult/Gerontology CNS role; emphasis on research, ethical decision making, and management of acute and chronic health problems. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 6267. Adult/Gerontology CNS III
3(3,0) PR: NGR 6266; NGR 6266L. Continuation of Adult/Gerontology CNS II. Management of acute and/or complex problems. Focus on collaboration, systems leadership, and consultation. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6267L. Adult/Gerontology CNS III Clinical
3(0,3) PR: NGR 6266; NGR 6266L; CR NGR 6267. Continued development of adult/gerontology Clinical Nurse Specialist role; emphasis on collaboration, systems leadership, consultation in management of acute and chronic problems. Graded S/U. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6305. Pediatric Primary Care
3(3,0) PR: Admission to the Doctor of Nursing Practice program, Family Nurse Practitioner track; completion of NGR 5003, NGR 5003L, or C.I. PR or CR: NGR 6172. CR: 6305L. Development of theoretical skills for evaluation, diagnosis, and management of the primary care needs of children and their families, including common normal and abnormal variations in physical, cognitive, and psychological development. May be used in the degree program a maximum of 2 times.
Spring,Summer
CON - Department of Nursing

NGR 6305L. Pediatric Primary Care Clinical
2(0,2) CR: NGR 6305. Development of clinical skills for evaluation, diagnosis, and management of the primary care needs of children and their families, including common normal and abnormal variations in physical, cognitive, and psychological development. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6331L. Pediatrics I Clinical for APNs
2(0,2) PR: Admission to MSN program or nursing certificate, FNP or PNP track. CR: NGR 6331. Evaluation diagnosis and management of the primary care needs of children and their families. Graded S/U.
Spring
CON - Department of Nursing

NGR 6332L. Pediatrics II Clinical for APNs
3(0,3) PR: Admission to M.S. in Nursing program, Nursing certificate, Pediatric Nurse Practitioner track, NGR 6332. Evaluation, diagnosis, and management of the complex health needs of children and their families. Graded S/U.
Fall
CON - Department of Nursing

NGR 6334. Women's Health for APNs
2(2,0) PR: Admission to M.S. in Nursing program, Nursing certificate or track, NGR 5003, NGR 5003L, NGR 5141, NR 6172. CR: NGR 6342L (for Adult Nurse Practitioner and Family Nurse Practitioner tracks). Development of theoretical skills for evaluation, diagnosis, and management of women.
Summer
CON - Department of Nursing

NGR 6335L. Focused Pediatrics Clinical for APNs
1(0,3) PR: Admission to M.S. in Nursing program, Nursing certificate, Pediatric Nurse Practitioner track, NGR 6331. Application of theory and skills for the in-depth developmental and physical assessment of children and their families. Graded S/U. May be repeated for credit.
Summer
CON - Department of Nursing

NGR 6342L. Women's Health for APNs Clinical
1(0,1) PR: Admission to M.S. in Nursing program, Nursing certificate, Adult Nurse Practitioner or Family Nurse Practitioner track. CR: NGR 6334. Application of skills for evaluation, diagnosis, and management of the health needs of women. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 6351. Nursing Care of Children and Childbearing Women
3(3,0) PR: NGR 5141; NGR 5003 & 5003L; CR: NGR 6801 or C.I. Analysis of nursing care of children and childbearing women. Incorporates diagnostic reasoning, nursing management, and evidence-based practices. May be used in the degree program a maximum of 2 times.
Fall,Spring
CON - Department of Nursing

NGR 6627. Management of Common Health Problems of Communities
3(3,0) PR: NGR 5141; NGR 5003 & 5003L; CR: NGR 6801 or C.I. Analysis of current practices in management of communities. Incorporates diagnostic reasoning, nursing management, and evidence-based practices. May be used in the degree program a maximum of 2 times.
Fall,Spring
CON - Department of Nursing

NGR 6713. Curriculum Development in Nursing Education
3(3,0) PR: Admissions to M.S. in Nursing program or certificate of Nursing Education, or C.I. Analysis of external and internal influences affecting curriculum development for the nursing education. Examination of societal factors impacting nursing education. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 6714. Clinical Teaching Strategies for Nursing
3(3,0) PR: NGR 6791 or C.I. Synthesis of research-based literature and best practice in the development, implementation and evaluation of clinical education for nursing students. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 6715. Application of Instructional Technology for Nursing Education
3(3,0) PR: NGR 6791 or C.I. Analysis of effective teaching and learning strategies with emphasis on developing techniques for teaching using instructional technology in nursing education. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6717. Introduction to Healthcare Simulation
3(3,0) Admission to M.S. in Nursing or Nursing Certificate or C.I. Course applies pedagogical principles and knowledge of a range of technologies to developing healthcare simulation programs. Includes principles of educational evaluation.
Fall,Spring,Summer
CON - All

NGR 6718. Evaluation in Nursing Education
3(3,0) PR: NGR 6713; NGR 6791 or C.I. Analysis of the process of systematic evaluation of learning outcomes at individual, class and program levels. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 6722. Financial Management and Resource Development
3(3,0) PR: Admission to M.S. in Nursing or Doctor of Nursing Practice program or C.I. Overview of health care financing and economics at the macro and micro level and their influence on health care delivery, resource development and health policy. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 6723. Nursing Leadership and Management
3(3,0) PR: Admission to Master of Science in Nursing, Doctor of Nursing Practice, Nursing Ph.D. program, or C.I. Analysis, synthesis and application of health care leadership principles including health and patient care, delivery systems, personnel management and finance, ethical, legal and regulatory requirements.
Fall,Spring
CON - Department of Nursing

NGR 6723L. Nursing Leadership Role Specialization Practicum
3(0,3) PR: NGR 6723. Preceptor supervised experience with a nurse leader. Experience will focus on the analysis, synthesis and application of the principles related to leadership in the health care setting, including health care delivery systems, patient care delivery systems, staffing, personnel management, finance and ethical, legal and regulatory requirements. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall,Spring
CON - Department of Nursing

NGR 6758L. Clinical Nurse Specialist Advanced Practicum
4(0,4) PR: NGR 6781. Supervised advanced clinical practice in the clinical nurse specialist role. Integration of practice, education, consultation, research and administrative roles. Graded S/U. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6771L. Healthcare Simulation Practicum
VAR(VAR,VAR) NGR 6978 or C.I. Optional practicum course to prepare for roles in nursing and healthcare simulation design and evaluation.
Fall,Spring,Summer
CON - All

NGR 6772L. Nurse Leadership and Management Internship
3(0,3) PR: NGR 5720, NGR 5871, NGR 6722, NGR 6723, and NGR 6723L. Percepted advanced leadership and management experience focusing on analysis, synthesis and application of principles related to nurse lead administration of health care systems. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall,Spring
CON - Department of Nursing

NGR 6773L. CNL Residency
3(0,3) PR: NGR 6777L, NGR 6775L, NGR 6776L and NGR 6813. Intensive clinical immersion in role of the clinical nurse leader. Graded S/U. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6775L. CNL Resources and Outcomes
1(0,1) CR: NGR 6105 and NGR 6722. Participation in clinical activities related to symptom and disease management and healthcare finance and resource utilization to improve patient outcomes. Graded S/U. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 6776L. CNL Advocacy and Education
1(0,1) CR: NGR 5720. Participation in clinical activities related to organizational assessment, patient/staff education and advocacy, and professional development. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 6777L. CNL Quality and Safety
1(0,1) CR: NGR 6874. Introduction to role of CNL in clinical setting; participation in clinical activities related to quality improvement and patient safety. Graded S/U. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6783. Adult CNS II
3(3,0) PR: NGR 6172, NGR 6782, NGR 6782L, NGR 6263, NGR 6264L; C.I. Continuation of Adult Clinical Nurse Specialist I. Management of acute and/or complex patients. Clinical Nurse Specialist competencies of collaboration, consultation, systems leadership, and research. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 6783L. Adult CNS II Clinical
2(0,2) PR: NGR 6782 and NGR 6782L; NGR 6263; NGR 6264L CR: NGR 6783. Continued development of the Clinical Nurse Specialist role. Emphasis on direct care, collaboration, consultation, systems leadership, and research. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 6791. Teaching Strategies for Nurse Educators
3(3,0) PR: Admission to a graduate program in the College of Nursing or the graduate certificate in Nursing and Health Professional Education or C.I. Application of evidenced-based practice guidelines to the processes of teaching and learning. Analysis of external and internal influences affecting the educational process of health professionals. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 6794. Organizational Leadership and Operations in Healthcare Simulation
3(3,0) NGR 6717 or C.I. Prepares students with the knowledge and skills necessary to manage a simulation program in a healthcare environment.
Spring
CON - All

NGR 6801. Research Methods
3(3,0) PR: NGR 5800. Identify and critically appraise existing scientific evidence, and apply evidentiary findings to nursing practice, population or setting. May be used in the degree program a maximum of 2 times.
Fall,Spring
CON - Department of Nursing

NGR 6813. Evidence Based Nursing Practice
3(3,0) PR: NGR 5800 and NGR 6801; must be in last 12 hours of M.S. in Nursing program or in Doctor of Nursing Practice plan of study. Apply research, theory and other evidence to advanced practice nursing. Processes for implementation, evaluation and synthesis of evidence-based nursing practice are included. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 6874. Nursing Environment Management
3(3,0) Admission to the M.S. in Nursing or Doctor of Nursing Practice track or C.I. In-depth analysis of the use of informatics, quality management, risk reduction and patient safety concepts and tools to promote improved patient outcomes for nursing care. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 6886. Professional Ethics and Rational Decision Making in Medicine & Advanced Nursing
3(3,0) PR: Graduate standing or C.I. An analysis of ethical theories that guide clinical, policy, and research decision-making in medicine and advanced nursing in a diverse society. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 6899. The Practice of Global Health Care
3(3,0) Admission to Graduate Nursing Program or C.I. An overview of health care from a global perspective, synthesizing the theory and practice of global health.
Fall,Spring,Summer
CON - All

NGR 6941. Advanced Practice Practicum
Variable, 1-7 PR: Admission to M.S. in Nursing, Doctor of Nursing Practice, Clinical Nurse Specialist or Nurse Practitioner certificate. Can be started concurrently with final clinical course in program of study. (Varies with plan of study.). Supervised advanced clinical practice in the role of nurse practitioner in an individualized preceptorship. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 6942C. Internship in Nursing Education
4(1,3) PR: NGR 6351 or NGR 6627 or NGR 6249; and NGR 6945L. Application of principles of education through guided practice in classroom and clinical settings and assimilation of the nurse educator role. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 6945L. Clinical Specialty Practicum
1(0,1) PR: NGR 5141 Pathospysiology; NGR 5003 & 5003L Advanced Health Assessment or C.I. Supervised clinical practice activities related to nursing care of common health problems of specific patient population. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall,Spring
CON - Department of Nursing

NGR 6978. Healthcare Simulation Capstone Project
3(3,0) NGR 6794 or C.I. Preparation and testing of a healthcare simulation project using a multi-disciplinary team approach.
Fall,Summer
CON - All

NGR 7065. Advanced Clinical Management for Advanced Practice Nursing
3(3,0) CR: NGR 7748L. Advanced diagnostic reasoning and analysis of clients with complex health maintenance, health promotion and illness management specific to speciality. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7115. Philosophical and Theoretical Foundations of Nursing Science
3(3,0) PR: Doctoral standing in College of Nursing or C.I. Analysis of the nature and levels of theory in science disciplines, historical and contemporary approaches to knowledge generation, and implications for nursing science. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7123. Concept Development in Nursing
3(3,0) PR: NGR 7115. Philosophical foundations and conceptualization techniques of concept development and analysis to advance the synthesis of knowledge in nursing. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 7163. Illness as a Social Construct
3(3,0) PR: NGR 7818 or C.I. Focused examination of concepts, theories, and research related to physical expression of disease and its link to individual psychosocial responses, beliefs, relationships and social environment. May be used in the degree program a maximum of 2 times.
Occasional
CON - Department of Nursing

NGR 7661. Healthcare for Vulnerable Populations
3(3,0) PR: Doctoral standing in the College of Nursing or C.I. Health and healthcare issues of vulnerable populations and the influence of social, cultural, political and economic factors. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7673. Epidemiology Principles in Advanced Practice Nursing
3(3,0) PR: Admission to Doctor of Nursing Practice program or C.I. Advanced application of epidemiological concepts in community and public health practice, including disease surveillance, prevalence, prevention and statistical management of patient aggregate data. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7748L. Advanced Clinical Practice Selective for Advanced Practice Nursing
1-3(0,1-3) PR: NGR 7176; CR: NGR 7065. Clinical management of clients with complex health maintenance, health promotion and illness management needs. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7778L. Advanced Leadership Selective for DNP
3(0,3) PR: Admission to the Doctor of Nursing Practice, Executive Doctor of Nursing Practice track or C.I. Application of evidence-based management processes to support decision making in the health care environment. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7779C. Program Development and Management for DNP
3(1,2) PR: Admission to the Doctor of Nursing Practice, Executive Doctor of Nursing Practice track or C.I. Application of inquiry, critical thinking and strategic planning skills related to project planning, management, evaluation and dissemination. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7793. Leadership and Economics in Advanced Practice Nursing
3(3,0) PR: NGR 7891. Advanced analysis of change management, leadership theories/strategies, finance and resource management and the health care systems and economic structures in Advanced Practice Nursing.
Summer
CON - Department of Nursing

NGR 7805. Doctoral Scholarship
3(3,0) PR: Admission to the Ph.D. track or C.I. An introduction to doctoral scholarship in support of beginning a program of research. Includes responsible conduct of science and research ethics consideration. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 7806. Doctoral Scholarship II
3(3,0) PR: NGR 7805 or C.I. A continuation of Doctoral Scholarship with an emphasis on synthesizing the research and theoretical literature related to the students area of research. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 7807. Research Approaches and Designs for Nursing and Healthcare
3(3,0) PR: Doctoral standing in the College of Nursing or C.I. Quantitative and qualitative approaches to studying nursing and health related phenomena; ethical issues; internal and external validity; comparison of designs. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7808. Qualitative Methods in Nursing and Healthcare II
3(3,0) PR: NGR 7815 Qualitative Methods I or equivalent or C.I. Application of qualitative methodologies for in-depth study of nursing and health-related phenomena; hands-on experience with data collection, analysis, and interpretation. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7815. Qualitative Methods in Nursing Research and Healthcare I
3(3,0) PR: Doctoral standing in the College of Nursing or C.I. Knowledge of qualitative research designs and methods for studying nursing and health-related phenomena. Course may be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7817. Quantitative Methods for Nursing and Healthcare I
3(3,0) PR: NGR 7807 or C.I. Designing quantitative studies and related statistical analysis; maximizing statistical power; ethical issues related to nursing research. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7818. Quantitative Methods for Nursing and Healthcare II
3(3,0) PR: NGR 7817 Quant Methods I or its equivalent or C.I. Advanced research designs; multivariate and biostatistical data analysis in nursing and health related research. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 7820. Innovative Technologies in Healthcare
3(3,0) PR: Doctoral standing in the College of Nursing or C.I. Application of innovative technologies in healthcare to research, teaching and practice. Legal, ethical and cultural issues related to technology transfer. May be used in the degree program a maximum of 2 times.
Summer
CON - Department of Nursing

NGR 7823. Psychometrics and Measurement for Nursing Research
3(3,0) PR: NGR 7817, NGR 7815, or C.I. Developing, testing and applying measurement theory in physiological and psycho social research analysis of psychometric properties of instruments and methods appropriate to theoretical perspectives and scientific rigor. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7827. Concepts, Measurement, and Data Management
3(3,0) PR: Admission to Doctor of Nursing Practice program, NGR 6813 or equivalent, C.I. Identification, analysis, and measurement of concepts; analysis and management of clinical data. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 7855C. Evidence-Based Practice Development for DNP
3(2,1) PR: Admission to the Doctor of Nursing Practice, Executive Doctor of Nursing Practice track or C.I. Critique and synthesis of evidence for practice related questions. Includes analysis of the context where evidence will be applied. May be used in the degree program a maximum of 2 times.
Fall,Spring
CON - Department of Nursing

NGR 7892. Healthcare Systems and Policy
3(3,0) PR: Doctoral standing in the College of Nursing or C.I. Underpinnings of healthcare policy; healthcare policy formation and change agency; influences on healthcare systems; related analysis and research. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 7911C. Doctoral Project I
3(2,1) PR: Doctoral standing in the College of Nursing or C.I. Identification of a practice-based problem, integration of existing evidence to propose a project to address the problem. May be used in the degree program a maximum of 2 times.
Fall
CON - Department of Nursing

NGR 7912C. Doctoral Project 2
3(1,2) PR: NGR 7911C Doctoral Project 1, Doctoral standing in the College of Nursing or C.I. Implementation of a DNP Committee approved practice based project to address a health care problem. May be used in the degree program a maximum of 2 times.
Spring
CON - Department of Nursing

NGR 7913. Doctoral Project 3
3(3,0) PR: NGR 7912C Doctoral Project 2, Doctoral standing in the College of Nursing or C.I. Completion of implementation, analysis of data, final paper approval and public presentation of DNP project. Graded S/U. May be used in the degree program a maximum of 2 times.
Fall,Spring,Summer
CON - Department of Nursing

NGR 7916. Research Grants Process and Proposal Writing
3(3,0) PR: Doctoral standing or C.I. Grants process include writing elements of research proposal for HIH R-series applications and strategies for successful proposal preparation. May be used in the degree program a maximum of 2 times.
Occasional
CON - Department of Nursing

NGR 7932. Nursing Research Grants Process and Proposal Writing
3(3,0) NGR 7916 The second of a Nursing two-course series on development and funding of programs of research; focuses on refinement of student research trajectories and grantsmanship for small research grant funding.
Spring
CON - All

NGR 7942L. DNP Professional Practice Immersion
VAR(VAR,VAR) Doctoral standing in the College of Nursing or C.I. Sponsored student immersion in a professional practice setting to promote advanced nursing leadership needs assessment, evaluation of public policy and design of care delivery models
Fall,Spring,Summer
CON - All

NGR 7948L. Doctor of Nursing Practice Residency
VAR(VAR,VAR) PR: NGR 7065; NGR 7748L. Clinical management of clients with complex health maintenance, health promotion and illness management needs focusing on a continuum of care within health care systems or organizations. There is a 6 hour requirement. Graded S/U. May be used in the degree program a maximum of 2 times.
Spring,Summer
CON - Department of Nursing

NGR 7952. Scientific Writing for Nurses and Healthcare Professionals
3(3,0) Admission to Graduate Nursing or Healthcare related discipline. Identify, discuss, and practice effective scientific writing elements as they apply to nursing and healthcare related disciplines; prepare a scientific manuscript for publication.
Fall
CON - All

NGR 7974. Doctor of Nursing Practice Project
3(3,0) PR: NGR 7176; NGR 7673, NGR 7115; NGR 7817; NGR 7123; NGR 7892; NGR 6874. Analyze health care needs, develop an evidence based intervention and evaluate outcomes for a specific population within an identified health care setting. Graded S/U. May be used in the degree program a maximum of 2 times.
Even Spring,Odd Summer
CON - Department of Nursing

NGR 7976L. Executive DNP Residency
3(0,3) NGR 7911C, NGR 7912C. Implementation of the Executive DNP Project
Fall,Spring,Summer
CON - All

OSE 5041. Introduction to Wave Optics
3(3,0) PR: EEL 4440 or PHY 4424 or C.I. Electromagnetic foundation of light waves as applied to reflection, diffraction, interference, polarization, coherence, and guided waves.
Occasional
OPT - Department of Optics

OSE 5115. Interference and Diffraction
3(3,0) PR: Admitted to a graduate program in Optics, Physics or Electrical Engineering, or C.I. Interference of light, optical interferometry, Fraunhofer and Fresnel scalar diffraction, diffraction gratings, temporal coherence, spatial coherence, and partial coherence.
Fall,Spring
OPT - Department of Optics

OSE 5203. Geometrical Optics
3(3,0) PR: Admitted to a graduate program in Optics, Physics or Electrical Engineering, or C.I. Fundamentals of Geometrical Optics, Geometrical Theory of Image Formation and Aberrations.
Fall,Spring
OPT - Department of Optics

OSE 5312. Light Matter Interaction
3(3,0) PR: Graduate standing or C.I. Microscopic theory of absorption, dispersion, and refraction of materials; classical and quantum mechanical description of optical properties.
Fall,Spring
OPT - Department of Optics

OSE 5313. Materials for Optical Systems
3(3,0) Graduate standing or C.I. Course will review key attributes of optical materials that allow them to be used in a range of applications, devices and components in optical systems.
Occasional
OPT - Department of Optics

OSE 5414. Fundamentals of Optoelectronic Devices
3(3,0) PR: Graduate standing or C.I. Operation, methods of fabrication, applications, and limitations of various optoelectronic devices including quantum well semiconductor devices.
Fall
OPT - Department of Optics

OSE 6111. Optical Wave Propagation
3(3,0) PR: Graduate standing or C.I. Optical propagation of light waves as applied to isotropic, anisotropic, and inhomogeneous media, guided waves and Gaussian beams.
Fall,Spring
OPT - Department of Optics

OSE 6120. Theoretical Foundations of Optics
3(3,0) PR: Graduate standing or C.I. Mathematical concepts used in Optics. Topics covered include linear algebra, orthogonal expansions of functions, Fourier transforms, ordinary differential equations, and partial differential equations.
Fall
OPT - Department of Optics

OSE 6125. Computational Photonics
3(3,0) PR: Graduate standing, OSE 6111 or C.I. Computational methods for photonic guided wave structures, periodic structures, and integrated photonic structures and devices.
Spring
OPT - Department of Optics

OSE 6143. Fiber Optics Communication
3(3,0) PR: Graduate standing and OSE 6432 or C.I. Use of fiber optics as a communication channel. Principles of fiber optics. Mode theory, transmitters, modulators, sensors detectors and demodulators.
Occasional
OPT - Department of Optics

OSE 6211. Imaging and Optical Systems
3(3,0) PR: Admitted to a graduate program in Optics, Physics or Electrical Engineering, or C.I. Linear systems theory of discrete and continuous one- and two-dimensional systems. Applications to optical polarization, pulse propagation, and image formation.
Fall,Spring
OPT - Department of Optics

OSE 6234C. Applied Optics Laboratory
3(1,3) PR: Graduate standing and OSE 5203 or C.I. Laboratory Techniques for observing optical phenomena and quantitative experimental study of geometrical optics, optical interferometry, diffraction, and image processing.
Spring
OPT - Department of Optics

OSE 6265. Optical Systems Design
3(3,0) PR: Graduate Standing and OSE 5203 or C.I. Design principles of lens and mirror optical systems; evaluation of designs using computer techniques.
Occasional
OPT - Department of Optics

OSE 6314. Optics of Low Dimensional Semiconductors
3(3,0) PR: Graduate standing and OSE 5312 or C.I. Optical properties and semiconductor physics of low-dimensional systems (quantum wells, wires, and dots), nano-photonic devices, and future nano-optical concepts.
Spring
OPT - Department of Optics

OSE 6315. Liquid Crystal Materials and Devices
3(3,0) PR: Graduate standing or C.I. Basic liquid crystal materials and their physical, optical, and electro-optic properties; photonic devices for amplitude and phase modulations.
Occasional
OPT - Department of Optics

OSE 6319. Optical Waves and Materials
3(3,0) PR: Graduate standing or C.I. Reviews Optics and material properties important for propagation and control of light. This is a review course in preparation for the Ph.D. Qualifying Exam.
Occasional
OPT - Department of Optics

OSE 6330. Stimulated and Holographic Scattering
3(3,0) PR: Graduate standing or C.I. The study of those processes in Nonlinear Optics, which are characterized by propagation of light in the media with the size considerably larger than the wavelength.
Occasional
OPT - Department of Optics

OSE 6334C. Nonlinear Optics
3(2.5,0.5) PR: Graduate standing and OSE 6111 or C.I. Maxwell's equations in nonlinear media, frequency conversion techniques (SHG, SFG, OPO), stimulated scattering, phase conjugation, wave-guided optics, nonlinear crystals.
Spring
OPT - Department of Optics

OSE 6335. Nonlinear Guided Wave Optics
3(3,0) PR: Graduate standing and OSE 6334C or C.I. The physics and applications of nonlinear optical interactions in fibers and planar waveguides is discussed, including parametric processes, all-optical effects and solutions.
Even Fall
OPT - Department of Optics

OSE 6347. Quantum Optics
3(3,0) PR: Graduate standing and OSE 5312 or C.I. Semiclassical treatment of light/matter interactions (quantized atomic states plus Maxwell's equations). Density matrix theory, coherent optical transients, pulse propagation.
Even Spring
OPT - Department of Optics

OSE 6349. Applied Quantum Mechanics for Optics and Engineering
3(3,0) PR: Graduate standing or C.I. Presents the elements of quantum mechanics that are essential for understanding many areas in modern optics and photonics.
Fall
OPT - Department of Optics

OSE 6416. Organic Photonics
3(3,0) Graduate standing, C.I. The course reviews optic and electronic properties inorganic molecules and polymers that are critical for photonic and opto-electronic applications.
Spring
OPT - Department of Optics

OSE 6421. Integrated Photonics
3(3,0) PR: Graduate standing, OSE 6111 or C.I. Reviews working principle, system functionality and design and fabrication issues of semiconductor integrated photonic devices and circuits for optical telecommunication and interconnect applications.
Spring
OPT - Department of Optics

OSE 6432. Guided Waves and Optoelectronics
3(3,0) PR: Graduate standing and OSE 6111 or OSE 5041 or C.I. Principles of guided wave optics, electro-optics, acousto-optics and optoelectronics.
Spring,Summer
OPT - Department of Optics

OSE 6445. Fundamentals of Ultrafast Optics
3(3,0) PR: Graduate standing, and OSE 6111 or PHY 5346, and OSE 6525, or C.I. Introductory concepts: Ultrafast Optical Signal Generation, Ultrafast Signal Detection, Ultrafast Optical Signal Transmission, and Ultrafast Optical Signal Processing.
Spring
OPT - Department of Optics

OSE 6447. Attosecond Optics
3(3,0) Graduate standing, and OSE 6349 or PHY 5606, and OSE 6111 or PHY 5346 or OSE 6525, or C.I. Introduction of the forefront of attosecond optics research. Topics include the fundamental theories and latest journal publications.
Fall
OPT - Department of Optics

OSE 6455C. Photonics Laboratory
3(1,3) PR: Graduate standing, and OSE 5414 and OSE 6474, or C.I. Experimental study of photonic devices and systems including liquid crystal displays, fiber-optic sensors, laser diodes, electro optic modulation, acousto-optic modulation, lightwave detection, optical communications, and photonic signal processing.
Even Fall,Odd Spring
OPT - Department of Optics

OSE 6474. Optical Communications Systems
3(3,0) GS; OSE 5414. Introduces key principles and analysis of optical communication systems. Emphasis on developing the ability to analyze and design digital, analog fiber-based systems and networks.
Spring
OPT - Department of Optics

OSE 6525. Laser Engineering
3(3,0) PR: Graduate standing or C.I. Principles of laser amplification and oscillations; design of lasers; general characteristics of excitation systems.
Spring
OPT - Department of Optics

OSE 6526C. Laser Engineering Laboratory
3(1,3) PR: Graduate standing and OSE 6525 or C.I. Designing and device implementation of diode pumped solid-state lasers, nonlinear frequency conversion, Q-switching, mode locking, and pulse second harmonic generation.
Summer
OPT - Department of Optics

OSE 6527. Fiber Lasers
3(3,0) GS and OSE 6525, and OSE 6432 or OSE 6474. This course combines an introduction to fiber lasers with detailed technical discussions based on reviews of recent progress and latest developments in fiber laser research.
Even Fall
OPT - Department of Optics

OSE 6536. Semiconductor Lasers
3(3,0) PR: Graduate standing and OSE 5312 or OSE 6525 or OSE 5414 or C.I. Light-matter interaction, thermal physics and solid state physics to understand, analyze, and engineer semiconductor lasers with different active region dimensionalities.
Occasional
OPT - Department of Optics

OSE 6615L. Optoelectronic Device Fabrication Laboratory
3(0,6) PR: Graduate standing or C.I. Design and micro-fabrication of semiconductor optoelectronics devices including passive waveguides, light emitting diodes (LEDs), laser diodes (LDs), photodetectors and electro-optic modulators.
Fall
OPT - Department of Optics

OSE 6650. Optical Properties of Nanostructured Materials
3(3,0) PR: Graduate standing OSE 6111, OSE 5312, or C.I. Theory and application of nanostructured optical materials: Effective medium theory, nanostructured surfaces, plasmon waveguides, nanophotonic circuits, metallic near-field lenses, collective modes in nanoparticle arrays, metamaterials.
Spring
OPT - Department of Optics

OSE 6820. Flat Panel Displays
3(3,0) PR: Graduate standing or C.I. Liquid crystal display, projection display, micro display, plasma display, light emitting diodes, organic light emitting display, and field emission display.
Occasional
OPT - Department of Optics

OSE 7919. Research
VAR Graded S/U. May be repeated for credit.
Fall,Spring,Summer
OPT - Department of Optics

PAD 5041. Ethics and Values in Public Administration
3(3,0) Examination of ethics in the public sector. Public concerns, past patterns, and individual/social aspects of ethical behavior are explored.
Occasional
HPA -

PAD 5145. Volunteerism in Nonprofit Management
3(3,0) PR: Admission to Master of Nonprofit Management degree, Nonprofit certificate or C.I. Volunteer development in nonprofit organizations, including board selection, development and leadership, volunteer recruitment, training, retention and theories of motivation, leadership, ethical issues.
Fall,Spring
HPA -

PAD 5146. Nonprofit Resource Development
3(3,0) Admission to Master of Nonprofit Management, Certificate in Nonprofit Management, Certificate in Fundraising or C.I. Examines human resource development and financial resource development in nonprofit organizations including management issues.
Fall,Spring
HPA - School of Public Administration

PAD 5336. Introduction to Urban Planning
3(3,0) Admission to Master of Science in Urban and Regional Planning, or Master of Public Administration, or Master of Nonprofit Management, or Certificate in Emergency Management and Homeland Security, or Certificate in Urban and Regional Planning, or C. I. Issues of urbanization, regional development, land use and comprehensive planning, environmental planning, and social planning.
Fall
HPA - School of Public Administration

PAD 5337. Urban Design
3(3,0) Admission to Master of Science in Urban and Regional Planning, or Master of Public Administration, or Master of Nonprofit Management, or Certificate in Urban and Regional Planning, or C. I. Planning techniques such as planned unit developments, capital improvements planning, and growth management, and planning methods, including needs assessment and graphic design.
Fall
HPA - School of Public Administration

PAD 5338. Land Use and Planning Law
3(3,0) Admission to Master of Science in Urban and Regional Planning, or Master of Public Administration, or Master of Nonprofit Management, or Certificate in Emergency Management and Homeland Security, or Certificate in Urban and Regional Planning, or C. I. Review of national and local aspects of the legal underpinnings of urban planning aspects such as zoning, growth management, and environmental regulation.
Spring
HPA - School of Public Administration

PAD 5356. Managing Community and Economic Development
3(3,0) Admission to Master of Science in Urban and Regional Planning, or Master of Public Administration, or Master of Nonprofit Management, or Certificate in Emergency Management and Homeland Security, or Certificate in Urban and Regional Planning, or C. I. Overview of economic development activities focusing on policy and managerial issues at the local level.
Spring
HPA - School of Public Administration

PAD 5425. Dispute Resolution in the Public Sector
3(3,0) An examination of the skills needed to resolve disputes in the public sector through facilitation, mediation, and other alternative methods.
Occasional
HPA -

PAD 5427. Labor Relations in the Public Sector
3(3,0) Current trends and developments in employment relations in the public sector, especially employee organization, negotiations, and the collective bargaining process.
Occasional
HPA -

PAD 5807. Local Government Operations
3(3,0) Operational Functions of municipal and county governments and the role of the chief executive officer.
Occasional
HPA -

PAD 5850. Grant and Contract Management
3(3,0) PR: Admission to the Master of Nonprofit Management, or Master of Research Administration, Certificate in Nonprofit Management, Certificate in Emergency Management and Homeland Security, Certificate in Public Administration, or Certificate in Fundraising, or C.I. Study of government or public nonprofit agency grant and contract administration and management responding to funding assistance solicitations and grant and contract preparation, evaluation, and presentation.
Fall,Spring
HPA - School of Public Administration

PAD 5855. Introduction to Public Procurement
3(3,0) Admission to Master of Public Administration, or Master of Nonprofit Management, or C. I. Acquisition of knowledge and skills relating to the public procurement process.
Occasional
HPA - School of Public Administration

PAD 6035. Public Administration in the Policy Process
3(3,0) Admission to Master of Public Administration, or Master of Science in Urban and Regional Planning, or Certificate in Public Administration, or Certificate in Police Leadership, or C. I. Analysis of the role of the public administrator in the analysis, formulation, implementation, and evaluation of public policies, especially at the state and local levels.
Fall,Spring,Summer
HPA - School of Public Administration

PAD 6036. Change Management in Public Organizations
3(3,0) Graduate standing Human and political dimensions of change within public organizations; applications of strategic management, budgeting, organizational culture, public policy and performance to organizational change.
Occasional
HPA - School of Public Administration

PAD 6037. Public Organization Management
3(3,0) Admission to the Master of Public Administration, or Certificate in Public Administration, or Certificate in Emergency Management and Homeland Security, or Certificate in Police Leadership, or C. I. Structure, functioning, performance of public organizations; behavior of individuals and groups; application for public management, includes both macro and micro approaches to organizational behavior.
Fall,Spring
HPA - School of Public Administration

PAD 6053. Public Administrators in the Governance Process
3(3,0) Admission to Master of Public Administration, or Master of Science in Urban and Regional Planning, or Certificate in Public Administration, or C. I. An examination of the political, social, economic, and moral context of modern public administration, with special attention to the ethical dimensions of the administrator's role
Fall,Spring,Summer
HPA - School of Public Administration

PAD 6062. Advanced Concepts and Applications in Public Administration
3(3,0) PR: PAD 6035, PAD 6037, PAD 6053, PAD 6227, PAD 6417 and PAD 6701 or C.I. An integrative course applying the skills, knowledge, and values considered in the program to selected public problems.
Fall,Spring
HPA -

PAD 6142. Nonprofit Organizations
3(3,0) Admission to Master of Nonprofit Management, or Master of Science in Urban and Regional Planning, or Certificate in Nonprofit Management, or Certificate in Fundraising, or Certificate in Emergency Management and Homeland Security, or C.I. Synthesis of best practices and research literature in nonprofit organization management. Instruction method is simulation where students act as nonprofit organization Board Members developing policies and procedures.
Fall,Spring
HPA - School of Public Administration

PAD 6149. Nonprofit Administration
3(3,0) PR: Admission to Master in Nonprofit Management or Graduate Certificate and PAD 5145, PAD 5146, PAD 6142, PAD 6208 and PAD 6335 or C.I. Provides an overview of nonprofit leadership and board development, focusing on the ethical, legal and administrative responsibilities of those individuals responsible for nonprofit management.
Fall,Spring,Summer
HPA - School of Public Administration

PAD 6167. Graduate Nonprofit Leadership Seminar
3(3,0) PR: Admission to Master of Nonprofit Management or Nonprofit certificate program and C.I. Discussion and activity-based course exploring nonprofit competencies to prepare students for management and leadership positions in human services.
Odd Fall
HPA -

PAD 6207. Public Financial Management
3(3,0) PR: PAD 6227 and PAD 6700, or C.I. Survey of financial management functions in local government, such as accounting, fund structures, debt and case management, and financial reporting.
Fall,Spring
HPA -

PAD 6208. Nonprofit Financial Management
3(3,0) Admission to Master of Nonprofit Management, or Certificate in Nonprofit Management, or Certificate in Fundraising or C.I. Financial management in nonprofit organizations, including nonprofit funding, budgeting policies and procedures, orientation of department managers to budgeting, estimating income and expenses, and ethical implications of budgeting and finance.
Fall,Spring
HPA - School of Public Administration

PAD 6227. Public Budgeting
3(3,0) Admission to Master of Public Administration and PAD 6700, or Certificate in Public Administration, or C.I. Budgets as planning programming documents, stressing the relationships of policy and budgetary decisions, problems in grantsmanship and revenue decision making, program budgeting, PPBS, and incrementalism.
Fall,Spring
HPA - School of Public Administration

PAD 6234. Public Capital and Debt
3(3,0) Admission to Public Budgeting and Finance Graduate Certificate or any graduate degree program in the School of Public Administration or C.I. Financial economic theories and financial management techniques to solve complex financing problems in securities markets; development of innovative financing techniques.
Occasional
HPA - School of Public Administration

PAD 6235. Fundraising as a Profession
3(3,0) Admission to Master of Nonprofit Management, or Master of Public Administration, or Certificate in Fundraising, or C. I. Examines principles involved in fundraising profession including current trends and best practices utilized by professional fundraisers. Topics include donor research, psychology of giving and volunteer involvement.
Spring
HPA - School of Public Administration

PAD 6236. Philanthropy and Society
3(3,0) PR: Graduate standing or C.I. A historic overview of philanthropy focusing on voluntary action for public good, for moral action, and as a foundation of democracy.
Occasional
HPA - School of Public Administration

PAD 6237. Ethics and Governance in Nonprofit Management
3(3,0) Admission to Master of Nonprofit Management, or Fundraising Certificate. Ethical competence in public service leadership in the nonprofit sector, ethical decision making, creation of a culture of ethics through leadership, stewardship, and governance.
Fall,Spring
HPA - School of Public Administration

PAD 6238. Revenue Policy and Administration
3(3,0) Admission to Graduate Certificate in Public Budgeting and Finance or any School of Public Administration graduate degree program or C.I. Political and economic aspects of tax administration, tax policy and fundamentals of tax legislations with emphasis on state and local government.
Fall,Spring
HPA - School of Public Administration

PAD 6254. Economics of Land Use Planning and Development
3(3,0) Graduate standing. Links basic growth and economic theory with applied challenges resulting from planning and development. Provides understanding of economic consequences of private market decisions on land use and development.
Occasional
HPA - School of Public Administration

PAD 6260. Fundamentals of Public Sector Accounting
3(3,0) Admission to Public Budgeting and Finance Graduate Certificate or any graduate degree program in the School of Public Administration or C.I. Emphasizes municipal entity fund accounting; development and use of financial statements, transaction evaluation, accounting rules and procedures.
Occasional
HPA - School of Public Administration

PAD 6307. Public Policy Analysis and Management
3(3,0) Admission to Master of Public Administration, or Master of Nonprofit Management, or Master of Science in Urban and Regional Planning, or Certificate in Public Administration, or C.I. Program analysis and organization structure as policy tools, examining the implementation of differential policy and the administrator as policy maker and change agent.
Occasional
HPA - School of Public Administration

PAD 6316. Planning Methods
3(3,0) Graduate standing. Encompasses two fundamental types of analyses in planning - population and economic analysis for localities and regions. Content covers data collection, analytical methods and techniques of report presentation for population and economic analysis.
Fall
HPA - School of Public Administration

PAD 6327. Public Program Evaluation Techniques
3(3,0) PR: Admission to Master of Nonprofit Management, or Master of Science in Urban and Regional Planning, or Master of Research Administration, or Certificate in Public Administration, or Certificate in Police Leadership, or C.I. Techniques and skills utilized in the evaluation of public programs.
Fall,Spring
HPA - School of Public Administration

PAD 6335. Strategic Planning and Management
3(3,0) PR: Admission to Master of Public Administration and PAD 6700, or Master of Nonprofit Management, or Master of Science in Urban and Regional Planning, or Master of Research Administration, or Certificate in Nonprofit Management, or Certificate in Fundraising, or Certificate in Public Administration, or C.I. An examination and analysis of planning, goal setting, and strategic management in public sector organizations.
Fall,Spring
HPA - School of Public Administration

PAD 6339. Housing Development and Planning
3(3,0) PR: Graduate standing or C.I. Metropolitan and regional planning course with primary focus on familiarizing students with housing planning and development in communities.
Occasional
HPA -

PAD 6353. Environmental Planning and Policy
3(3,0) Graduate standing. Underlying concepts, approaches and critical issues in the field of environmental planning and management. Environmental planning processes will be examined from various political/ geographical scales and within a policy content.
Spring
HPA - School of Public Administration

PAD 6355. Growth Management Approaches and Techniques
3(3,0) PR: Graduate standing or C.I. Regional and metropolitan planning course that focuses on how growth management works in communities.
Occasional
HPA - School of Public Administration

PAD 6387. Transportation Policy
3(3,0) Graduate standing. An examination of the process of public policy formulation and implementation in the field of transportation
Occasional
HPA - School of Public Administration

PAD 6397. Managing Emergencies and Crises
3(3,0) PR: Graduate standing or C.I. Analyzes and integrates the basic crisis management steps: hazard mitigation, disaster preparedness, disaster response, and recovery --building analytical and practical skills necessary to perform effectively in homeland security/emergency management-related positions.
Occasional
HPA -

PAD 6399. Foundations of Emergency Management and Homeland Security
3(3,0) PR: Graduate standing or C.I. Analyzes the policy and organizational design issues confronting managers of emergency management and homeland security programs by: examining the natural and manmade threats; by analysis of the network of actors - national, state, local, and private; and by assessing the policy, plans, and procedures at governmental and community levels.
Occasional
HPA -

PAD 6417. Human Resource Management
3(3,0) Admission to Master of Public Administration, or Master of Nonprofit Management, or Master of Research Administration, or Certificate in Public Administration, or Certificate in Corrections Leadership, or C. I. Administrator as manager and motivator of public employees with particular emphasis on organizational behavior and contemporary public service legislation.
Fall,Spring
HPA - School of Public Administration

PAD 6439. Leadership in Public Service
3(3,0) Admission to School of Public Administration graduate degree programs. Importance of sound public leadership and development of analytical skills to recognize and resolve critical public management issues.
Fall
HPA - School of Public Administration

PAD 6616. Economic Principles for Public Policy and Management
3(3,0) Admission to Graduate Certificate in Public Budgeting or Master of Public Administration Economic concepts, relationships, and methods of analysis that are relevant for public sector management decisions and policy analysis; usefulness of economic analysis in Public Sector decision making.
Fall,Spring,Summer
HPA - School of Public Administration

PAD 6700. Research Methods in Public Administration
3(3,0) PR: Admission to Master of Public Administration program or C.I. Statistical methodology and use of computers as a tool for decision making in the public sector.
Fall,Spring
HPA -

PAD 6701. Analytical Techniques for Public Administration
3(3,0) PR: PAD 6700 or C.I. Applied analytical tools for administrators in the public sector. Practical use of computers in policy and decision making.
Fall,Spring
HPA -

PAD 6705. Public Sector Communications
3(3,0) Admission to Public Administration or Nonprofit Management master's programs. Recognizing stakeholders and their needs; focusing on communications specific to reputation management, branding and marketing strategies in keeping with regulatory standards.
Spring
HPA - School of Public Administration

PAD 6716. Information Systems for Public Managers and Planners
3(3,0) Graduate standing. Use of systems concept, software and computers in contemporary public sector management and planning information systems.
Fall,Spring
HPA - School of Public Administration

PAD 6741. Research Integrity for Research Administrators
3(3,0) PR: Admission to Master of Research Administration program. This course provides an overview of research integrity from the perspective of those in the field of research administration.
Summer
HPA -

PAD 6742. Introduction to Research Administration
3(3,0) PR: Admission to Master of Research Administration program or C.I. Overview of research administration including history, roles and relationships, partnership, purpose and core value of research and research organizational types.
Occasional
HPA -

PAD 6743. Leadership and Organization Models in Research Administration
3(3,0) PR: Admission to Master of Research Administration program or C.I. General management concepts in preparation for leadership roles in Research Administration, the tools of managerial decision-making and team building, and acquaints students with theories and principles of research and development organizations.
Occasional
HPA -

PAD 6744. Financial Management in Research Administration
3(3,0) PR: Admission to Master of Research Administration program or C.I. Overview of financial management in research administration to establish an understanding of the complex financial management and reporting environment.
Occasional
HPA -

PAD 6745. Contracting for Sponsored Programs
3(3,0) PR: Admission to Master of Research Administration program or C.I. Overview of the contracting mechanisms that are relevant to sponsored program management, including federal regulations; policy-, business- and risk-based decisions impacting sponsored program contracting.
Occasional
HPA -

PAD 6746. Intellectual Property, Technology Transfer and Commercialization
3(3,0) PR: Admission to Master of Research Administration program or C.I. Role of research administration in technology transfer and commercialization of new innovations, including intellectual property relating to copyright, patents and trademarks.
Occasional
HPA -

PAD 6747. Audits in Research Administration
3(3,0) PR: Admission to Master of Research Administration program or C.I. Overview of financial and non-financial audit process for research contracts and grants. Includes audit process, types of audits and do's and don'ts when an organization is audited.
Occasional
HPA -

PAD 6748. Governance and Regulatory Issues for Sponsored Programs
3(3,0) PR: Admission to Master of Research Administration program or C.I. Provides an overview of the governing and regulatory structure for which research organizations must comply and operate to administer and manage research projects and programs.
Fall
HPA -

PAD 6825. Cross-Sectoral Governance
3(3,0) PR: Graduate Standing or C.I. Examines the structures, dynamics and processes associated with developing and delivering public services through networks and partnerships involving public, nonprofit, voluntary and private sectors.
Occasional
HPA -

PAD 6829. Network Analysis in Public Policy and Management
3(3,0) Public Administration graduate student Advance understanding and appreciation of design and evaluation of public policy and management networks
Spring
HPA - School of Public Administration

PAD 6836. Comparative Global Public Administration
3(3,0) PR: Graduate status or C.I. Public Administration at the national level, to include political system, policy structure, institutional frameworks, institutional capacity and level of technology.
Occasional
HPA -

PAD 6847. Planning Healthy Communities
3(3,0) Graduate standing. Addresses impact of community design on health and provision of health care to the population. Includes land use patterns, transportation, water/air quality, sanitation, mental health, provision of health care services and social capital in maintaining health.
Even Spring
HPA - School of Public Administration

PAD 6934. Special Issues in Public Administration
3(3,0) Substantive and theoretical issues confronting the broad spectrum of contemporary public administration. May be repeated for credit only when course content is different.
Occasional
HPA -

PAD 6946. Internship
3(3,0) Admission to Master of Public Administration, or Master of Nonprofit Management, or Master of Science in Urban and Regional Planning, or Certificate in Fundraising, or Certificate in Emergency Management and Homeland Security, and consent of Internship Director. Graded either S/U or Letter. May be repeated for credit.
Fall,Spring,Summer
HPA - School of Public Administration

PAD 7026. Advanced Seminar in Public Administration
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. Discuss emerging issues in public administration research using current journal articles and exemplary research in areas such as public management.
Occasional
HPA -

PAD 7057. Advanced Public Management
3(3,0) PR: Admission to Public Affairs Ph.D. program. Examines the literature and practice in public organization management focusing on empirical findings and theoretical discussion in critical areas of public management and administration.
Even Spring
HPA -

PAD 7317. Program Design and Management
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. Analysis of community-based advanced organizational design and development theories and management techniques utilized in designing and developing public and nonprofit programs.
Even Summer
HPA -

PAD 7707. Advanced Research in Public Administration
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. Integration of knowledge and research skills gained through the doctoral program with integrative application to the most current issues in the field of public administration.
Odd Spring
HPA -

PAD 7827. Network Governance
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. Analysis of theory, skills and processes of designing, developing, evaluating and managing networks in a public policy and management setting with emphasis on building capacity across organization and sectoral boundaries.
Odd Spring
HPA - School of Public Administration

PAF 6720. Graduate Seminar in Global Health and Public Affairs Research
3(3,0) Admission to Global Health Graduate Certificate or C.I. Interdisciplinary seminar on global health and public affairs. Impacts of science and technology, health, education, welfare and environmental policy on globalization will be examined from a comparative perspective.
Fall
HPA - Public Affairs Ph.D.

PAF 7000. Foundations of Public Affairs: People, Places, Policies and Paradigms
3(3,0) PR: Admission to Public Affairs Ph.D. Program or C.I. Provides an overview of public affairs and is taught from an interdisciplinary perspective focused on the necessary components to effectively address community-based problems.
Fall
HPA - Public Affairs Ph.D.

PAF 7055. Seminar in State and Local Government Policy Research
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. State and local governments explored from a comparative perspective. Focusing upon similarities and differences between states with implications for state and local policy.
Even Spring
HPA - Public Affairs Ph.D.

PAF 7110. Ethics and Social Justice in Public Affairs
3(3,0) PR: Admission to PhD Program or C.I. Basic philosophical principles of theories as they impact practitioner-level ethical demands for managers; the examination of public policy institutions shaping social justice in U.S.
Summer
HPA - Public Affairs Ph.D.

PAF 7230. Strategic Change and Management for Public Affairs
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. Course deals with change in: organizations, governance relationships and communities. The course uses a "tools" approach.
Spring
HPA - Public Affairs Ph.D.

PAF 7300. Policy Analysis in Public Affairs
3(3,0) PR: Admission to PhD Program or C.I. Public policy development and impact analysis in criminal justice, health administration, public administration, and social work.
Spring
HPA - Public Affairs Ph.D.

PAF 7315. Public Policy: Microeconomic Applications
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. This is a public policy course that uses microeconomics as a tool for analysis.
Spring
HPA - Public Affairs Ph.D.

PAF 7317. Social Inquiry and Public Policy
3(3,0) Admission to Public Affairs Ph.D. or C.I. Course examines the philosophical foundations of social inquiry and the importance of theory in public policy and evaluation research.
Fall
HPA - Public Affairs Ph.D.

PAF 7325. Policy and Program Evaluation for Public Affairs
3(3,0) Admission to Public Affairs Ph.D. or C.I. Course is designed to use empirical information to assess the effectiveness of policies and programs in public and nonprofit settings.
Fall
HPA - Public Affairs Ph.D.

PAF 7510. Seminar in Policy Evaluation and Performance Measurement
3(3,0) PR: Admission to Public Affairs Ph.D. Program or C.I. Applies quantitative methods to policy evaluation and performance measurement, particularly related to national and global policy changes for human development and growth.
Odd Fall
HPA - Dean's Office - HPA

PAF 7757. Seminar in Global Governance and Policy Research
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. Comparative analysis in Public Affairs from global perspective examining and comparing U.S. Public Affairs and International Global areas.
Occasional
HPA - Public Affairs Ph.D.

PAF 7802. Advanced Research Methodology for Public Affairs
3(3,0) Admission to Public Affairs Ph.D. program or C.I. Course focuses on the nature and process of scientific inquiries including specific methods for conducting social science research in a community setting.
Fall
HPA - Public Affairs Ph.D.

PAF 7804. Advanced Statistics for Public Affairs I: Multivariate Analysis
3(3,0) Admission to Public Affairs Ph.D. Program or C.I. An advanced statistical course that efficiently and effectively perform multivariate modeling and analyze multivariate statistical data to address critical issues in public affairs.
Spring
HPA - Public Affairs Ph.D.

PAF 7805. Advanced Statistics for Public Affairs II: Survey of Statistical Methods
3(3,0) Admission to Public Affairs Ph.D. program and PAF 7804 or C.I. Introduction to an array of statistical modeling techniques for different types of data and research designs. Coverage of theory and application of each technique.
Fall
HPA - Public Affairs Ph.D.

PAF 7806. Advanced Research Methods in Public Affairs II
3(3,0) PR: PAF 7802. Advanced critical evaluation of research methods that concentrate on key concepts and procedures. A variety of methodologies will be used with a focus on the strengths and weaknesses of various research strategies.

HPA - Public Affairs Ph.D.

PAF 7820. Qualitative Methods for Public Affairs
3(3,0) Admission to Public Affairs Ph.D. program and PAF 7802 or C.I. Course is an overview of qualitative research methods and their application in interdisciplinary and mixed methods community-based public affairs research.
Fall
HPA - Public Affairs Ph.D.

PAF 7856. Applications of Structural Equation Modeling in Public Affairs
3(3,0) Admission to Public Affairs Ph.D. program or C.I. Course introduces advanced methods that include causal thinking, predictor tree analysis, propensity source matching and analysis, latent growth curve modeling and multilevel modeling.
Spring
HPA - Public Affairs Ph.D.

PAF 7858. Advanced Seminar in Governance and Policy Research
3(3,0) PR: PAF 7000, PAF 7300, PAF 7806 or C.I. Integrates theoretical and methodological applications to public policy analysis, particularly related to environmental, science and technological, health and welfare impacts.
Odd Spring
HPA - Public Affairs Ph.D.

PAF 7868. Advanced Statistics for Public Affairs III: Continued Survey of Statistical Methods
3(3,0) Admission to Public Affairs Ph.D. or C.I. Develops advanced expertise in research methods skills which can include mixed methods, statistics skills, geographic information analysis, research syntheses, meta-analyses, and/or economic analysis such as cost effectiveness analysis.
Spring
HPA - Public Affairs Ph.D.

PAF 7925. Symposium on Public Affairs Issues
3(3,0) PR: Admission to Public Affairs program or C.I. Issues and trends impacting the four subject areas in the U.S. Public Affairs along with the inter-disciplinary characteristics of the respective cognate areas will be explored.

HPA - Public Affairs Ph.D.

PAF 7947. Practicum in Community-based Research
3(3,0) Admission to Public Affairs Ph.D. and PAF 7000, PAF 7802, PAF 7804, PAF 7317, PAF 7820, PAF 7325, PAF 7805 or C.I. This course provides students an experiential engagement working with interdisciplinary teams and community partners to conduct and report on a community-engaged research study.
Spring
HPA - Public Affairs Ph.D.

PAF 7981. Dissertation Prospectus Seminar in Public Affairs
3(3,0) Admission to Public Affairs Ph.D. program and C.I. Train and guide students as they begin the dissertation prospectus process. Includes planning the study, conducting the literature review, developing the research questions and choosing theories and methods.

HPA - Public Affairs Ph.D.

PAZ 5235. Zoo and Aquarium Biology Management
3(3,0) Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Conservation, propagation and exhibition of wild animals in captivity.
Summer
COS - Department of Biology

PCB 5025. Molecular and Cellular Pharmacology
3(3,0) PR: Graduate standing, PCB 3522. The cellular and molecular events that lead to disease states and the molecular basis of agents that modulate these processes will be covered.
Spring
COM - Department of Molecular and Microbiology

PCB 5045. Conservation Biology
4(4,0) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Scientific basis of conservation; conservation of ecosystems, populations, exploited species, and endangered species.
Fall
COS - Department of Biology

PCB 5235. Molecular Immunology
3(3,0) PR: MCB 3020C or equivalent. Fundamental functions of the human immune system, focusing on cellular and molecular aspects of the innate and adaptive immune response.
Fall
COM - Department of Molecular and Microbiology

PCB 5236. Cancer Biology
3(3,0) PR: PCB 4524 and graduate standing. Current knowledge and research on molecular mechanism of tumor development, tumor progression, metastasis and therapy of cancer.
Occasional
COM - Department of Molecular and Microbiology

PCB 5238. Immunobiology
3(3,0) PR: PCB 3233 , PCB 4280. Advanced topics in immune system dysregulation with special emphasis on innate immunity.
Spring
COM - Department of Molecular and Microbiology

PCB 5265. Stem Cell Biology
3(3,0) PR: Graduate standing. Introduction to embryonic and adult stem cells, procedures to isolate them, principles and applications of stem cells in animal and human diseases.
Occasional
COM - Department of Molecular and Microbiology

PCB 5275. Signal Transduction Mechanics
3(3,0) PR: PCB 3522 and PCB 4524. A course emphasizing various signal transduction cascades used in mammalian cells to control growth and differentiation. Discussion of original research papers will occur.
Occasional
COM - Department of Molecular and Microbiology

PCB 5326C. Ecosystems of Florida
5(3,2) Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM In Conservation Biology, or C.I Ecosystems of Florida will be discussed to include geography, geology, climate, energetics, nutrient cycling, community structure and conservation.
Occasional
COS - Department of Biology

PCB 5435C. Marine Ecology of Florida
4(2,6) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, PSM in Conservation Biology, or Certificate in Conservation Biology, or C.I. Survey of experimental methods used in the study of marine communities in central and southern Florida, combining field manipulation and readings from primary literature.
Odd Spring
COS - Department of Biology

PCB 5447. Disease Ecology & Ecoimmunology
3(3,0) A grade of B (3.0) or better in Genetics (PCB 3063 or equivalent) and Ecology (PCB 3044 or equivalent), or C.I., or graduate standing. Examination of how hosts, parasites and environment interact to shape organisms, populations and communities.

COS - Department of Biology

PCB 5485. Models in Ecology
3(3,0) PCB 3044, MAC 2311C (or equivalent), and graduate status or senior standing or C.I. A survey of how simulation models are applied to ecological questions of both a theoretical and managerial nature.
Occasional
COS - Department of Biology

PCB 5527. Genetic Engineering and Biotechnology
3(3,0) PR: PCB 3522 and PCB 4524 or C.I. Principles of Genetic Engineering/Biotechnology in Bacteria, Yeast, Viral, Mammalian, Non-mammalian systems, Plants, including human gene therapy, novel pharmaceuticals, recombinant proteins will be discussed in depth.
Fall
COM - Department of Molecular and Microbiology

PCB 5596. Biomedical Informatics: Sequence Analysis
3(3,0) PR: PCB 3522 or equivalent or C.I. Introduction of useful bioinformatics tools and resources on sequence analysis.
Fall
COM - Department of Molecular and Microbiology

PCB 5687. Evolutionary Ecology
3(3,0) PR: PCB 4683 or equivalent and C.I. Evolution of life history traits (e.g., propagule size/number, age/size at maturity, survivorship and senescence) examined using a quantitative genetic framework.
Even Fall
COS - Department of Biology

PCB 5709C. Laboratory Virtual Simulations in Physiology
3(1,2) CR: PCB 5834C Advanced Human Physiology. Conduct experiments in physiology that enhance the ability to design, collect, analyze data and report results in a scientific manner.
Occasional
COM - Department of Molecular and Microbiology

PCB 5815. Molecular Aspects of Obesity, Diabetes & Metabolism
3(3,0) PR: PCB 3522 or BCH 4053 or BSC 6432. Biochemical, molecular and physiological aspects of obesity, diabetes and metabolic diseases and how scientific findings can be translated towards prevention and treatment.
Odd Spring
COM - Department of Molecular and Microbiology

PCB 5834C. Advanced Human Physiology
4(3,2) PR: Graduate standing or C.I. Designed to provide graduate students advanced knowledge of physiological processes at the cellular, molecular and system levels.
Fall
COM - Department of Molecular and Microbiology

PCB 5837. Cellular and Molecular Neuroscience
3(3,0) Graduate standing. An advanced and thorough course providing understanding of the cellular components and molecular signaling pathways involved in the nervous system function.
Spring
COM - Department of Molecular and Microbiology

PCB 5838. Cellular and Molecular Basis of Brain Functions
3(3,0) PR: Graduate Standing or C.I. Designed to provide graduate students the concepts required to understand the physiological basis of brain functions at the molecular, cellular and system levels.
Fall
COM - Department of Molecular and Microbiology

PCB 5935. Population Genetics
3(3,0) Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Population genetics and the study of the various forces that result in evolutionary changes through time.
Even Fall
COS - Department of Biology

PCB 6035C. Wetland Ecology
4(3,3) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, PSM in Conservation Biology, or Certificate in Conservation Biology, or C.I. Advanced study of ecological structure, function, and diversity of wetlands. Lectures, discussions, and field-based labs, including management, laws, and restoration.
Occasional
COS - Department of Biology

PCB 6040. Methods of Data Collection and Analysis in Behavioral Ecology
1(1,0) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, PSM in Conservation Biology, or Certificate in Conservation Biology, or C.I. Discussion of methodology and data analysis in behavioral ecology. The methods and analyses discussed each semester vary depending on thesis topics and literature reviewed. Graded S/U. May be used in the degree program a maximum of 4 times.
Even Fall
COS - Department of Biology

PCB 6042. Conservation Biology Theory
4(4,0) Graduate standing in Biology or C.I. Review and analysis of the literature of conservation biology.

COS - Department of Biology

PCB 6046. Advanced Ecology
3(3,0) PR: Graduate standing in Biology, admission to Certificate in Conservation Biology, or C.I. Population and community ecology with emphasis on growth, regulation, species interactions, succession, and community classification.
Occasional
COS - Department of Biology

PCB 6047. Advances in Plant Ecological Research
1(1,0) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Current methodological and conceptual developments in plant ecological research. Examination of newly published and on-going research through presentations and group discussions. Graded S/U. May be used in the degree program a maximum of 2 times.
Occasional
COS - Department of Biology

PCB 6053C. Restoration Ecology
4(2,4) Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Survey of the general ecological principles that guide restoration ecology: the process of assisting the recovery of degraded, damaged or destroyed ecosystems.
Spring
COS - Department of Biology

PCB 6095. Professional Development in Biology I
1(1,0) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Methods in experimental design, research, and the ethics of animal research. Graded S/U.
Occasional
COS - Department of Biology

PCB 6096. Professional Development in Biology II
1(1,0) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Preparation and presentation of research grants, scientific presentations, and scientific papers. Graded S/U.
Occasional
COS - Department of Biology

PCB 6124. Structure Bioinformatics
3(3,0) PR: PCB 5596 or equivalent. Focus on tools and resources in RNA and protein structure analyses.
Occasional
COM - Department of Molecular and Microbiology

PCB 6328C. Landscape Ecology
4(3,2) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, PSM in Conservation Biology, or Certificate in Conservation Biology, or C.I. Influence of spatial heterogeneity on ecological processes. Emphasizes quantitative methods (e.g., GIS, remote sensing and modeling) to characterize landscape patterns and dynamics.
Occasional
COS - Department of Biology

PCB 6365. Environmental Physiology
3(3,0) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, PSM in Conservation Biology, or Certificate in Conservation Biology, or C.I. The effects of major environmental factors on the physiology of plants and animals.
Occasional
COS - Department of Biology

PCB 6409. Global Change Biology
3(3,0) Graduate standing or C.I. Examination of global climate change science applied to biological systems. Topics include physical basis, physiological and evolutionary responses, range shifts, biogeochemical cycles, disturbance, uncertainty, and effective communication.
Odd Spring
COS - Department of Biology

PCB 6466. Methods in Experimental Ecology
3(3,0) Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. An introduction to methods of population ecology. Experimental design, statistics, experimental variables and treatments and measurements of organisms and the environment.
Fall
COS - Department of Biology

PCB 6468. Methods in Experimental Ecology II
3(3,0) PCB 6466 Methods in Experimental Ecology. Strengthen student's ability to collect, organize and interpret ecological data. Confronts concepts in experimental design, execution and analysis as a tool to improve ecological research.
Even Spring
COS - Department of Biology

PCB 6480C. Quantitative Conservation Biology
4(3,2) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Current methods of data analysis and modeling to evaluate biological population dynamics. May be used in the degree program a maximum of 2 times.
Occasional
COS - Department of Biology

PCB 6528. Plant Molecular Biology
3(3,0) PCB 4524 or C.I. Structure and function of plant genomes, genes, gene products and experimental approaches for genetic engineering for production of edible vaccines, antibodies or other pharmaceuticals.
Occasional
COM - Department of Molecular and Microbiology

PCB 6556. Conservation Genetics
3(3,0) Admission to the M.S. In Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Applications of genetic models to the understanding and conservation of animal and plant populations.
Odd Spring
COS - Department of Biology

PCB 6585C. Advanced Genetics
4(3,2) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, PSM in Conservation Biology, or Certificate in Conservation Biology, or C.I. Recent advances in genetics, stressing molecular and developmental trends.
Occasional
COS - Department of Biology

PCB 6595. Regulation of Gene Expression
3(3,0) PR: Advanced course in molecular biology of BSC 6407C. Concepts of molecular biology focusing on major areas in transcriptional and translational processes.
Occasional
COM - Department of Molecular and Microbiology

PCB 6655. Advanced Invertebrate Genetics
1(0,2) PR: PCB 3063 or equivalent, graduate standing. Literature based discussion of recent developments in classical and molecular genetics of invertebrates. May be used in the degree program a maximum of 3 times.
Fall,Spring
COS - Department of Biology

PCB 6675C. Evolutionary Biology
4(3,2) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Review of modern concepts and theories in evolutionary biology with emphasis on readings in the primary literature.
Even Fall
COS - Department of Biology

PCB 6677. Molecular Evolution & Phylogenetics
3(3,0) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Advanced understanding of evolution at the molecular level based on phylogenetic analysis of changes in DNA, RNA and protein.
Odd Fall
COS - Department of Biology

PCB 6727. Comparative Animal Physiology
3(3,0) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, PSM in Conservation Biology, or Certificate in Conservation Biology, or C.I. Comparison of structural and functional adaptations of animal organ systems. Emphasis upon maximization of fitness under given environmental conditions.
Occasional
COS - Department of Biology

PCB 6930. Current Topics in Ecology
1(1,0) PR: Graduate standing or C.I. Research on current ecological topics will be added . The instructor will assign readings on a weekly basis. Students will lead discussion. Graded S/U. May be repeated for credit.
Occasional
COS - Department of Biology

PCB 6934. Molecular Mechanisms of Fertilization: Journal Club
1(1,0) PR: Graduate standing or C.I. Current topics in fertilization research includes analysis and discussion of primary literature in both vertebrate and invertebrate systems. Graded S/U.
Occasional
COS - Department of Biology

PCB 6935. Advanced Topics in Cardiovascular Science
2(2,0) PR: Graduate standing. Cutting-edge research in cardiovascular science is presented with emphasis on molecular mechanisms of cardiac development, vascular inflammation, oxidative stress, and neural regulation of the cardiovascular system. Graded S/U.
Occasional
COM - Department of Molecular and Microbiology

PCB 6939. Topics in Genomics
1(1,0) PCB 3063. Review current literature in Genomics, one of the fastest growing fields in Biology. Graded S/U.
Occasional
COS - Department of Biology

PCB 7049C. Conservation Biology Practice
4(2,4) PR: Acceptance into the Conservation Biology Ph.D. program. Case studies and evaluation of local and regional conservation issues from a biological perspective.
Spring
COS - Department of Biology

PEM 5408C. Controlling Classroom Violence
3(2,1) Graduate standing; certified teacher. A hands-on course dealing with controlling disruption and violence as well as how teachers can protect themselves.
Occasional
ED - Department of Child, Family and Community Sciences

PEO 5645C. Coaching Football
3(2,1) C.I. Advanced principles and methods common to the coaching of football. Includes teaching and training methods, organization, motivation and strategies.
Occasional
ED - Department of Child, Family and Community Sciences

PET 5216. Motivational Aspects of Coaching
3(3,0) PR: Graduate standing or C.I. Assist students to understand and conceptually integrate mental and physical performance, mental rehearsal, motivation, effort, persistence, adherence and compliance, measurement and evaluation, and other related topics of interest.
Even Summer
ED - Department of Educational and Human Sciences

PET 5355. Exercise and Health
3(3,0) PR: Admission to master's program or certificate program. Will provide educators an in-depth understanding of energy pathways, and neuromuscular, cardiovascular, and respiratory systems during exercise. Emphasis on understanding principles of exercise adaptations and applying those principles to fitness/wellness settings.
Occasional
ED - Department of Educational and Human Sciences

PET 5495. Critical Issues: Ethics in Coaching and Sport
3(3,0) PR: Graduate standing or C.I. Specializes in coaching and sport leadership in self-evaluating, examining, and developing philosophy, values, and moral reasoning skills.
Even Summer
ED - Department of Educational and Human Sciences

PET 5766. Advanced Coaching Theory
3(3,0) PR: C.I. Advanced study of theories and methods of coaching for optimum sports performance.
Occasional
ED - Department of Educational and Human Sciences

PET 6062C. Perceptual Motor Development
3(2,1) Theoretical and laboratory study of the relationship between perceptual motor development and learning. Special attention is given to identifying and remediating motor deficit.

ED - Department of Child, Family and Community Sciences

PET 6086. Exercise As Preventive Medicine
3(3,0) PET 6388. Prevention of select major risk hazards through exercise intervention.
Occasional
ED - Department of Child, Family and Community Sciences

PET 6096. Youth Physical and Athletic Development
3(3,0) Graduate standing or C.I. This class will introduce concepts associated with sport and physical activity development in youth athletes. A multi-factorial, systematic approach to the development process, including discussion of key factors, such as physical literacy, talent identification, specialization, etc. will be presented. Students will also become familiar with the theory and practice of strength and conditioning for children and young athletes.
Occasional
ED - Department of Educational and Human Sciences

PET 6135. Historical Aspects of Sport and Physical Education
3(3,0) PR: Graduate standing. This course examines the development of sport and physical education from historic to modern times. The focus will be on US sport development following 1865.
Odd Spring
ED - Department of Educational and Human Sciences

PET 6217. Peak Performance in Sports
3(3,0) PR: Admission to graduate certificate in Coaching or C.I. An in-depth study of mental and physical performance, including mental rehearsal, motivation, effort, and persistence.
Occasional
ED - Department of Educational and Human Sciences

PET 6252. Race and Gender in Coaching and Sport Leadership
3(3,0) PR: Graduate standing or C.I. Combines the content from two major areas of study in sport leadership to prepare students to work in multicultural and diverse settings.
Odd Fall
ED - Department of Educational and Human Sciences

PET 6335. Kinesiology
3(3,0) PR: Admission to the graduate certificate in Coaching or C.I. The study of man in motion with emphasis on temporal analyses; kinematics with two-and three-dimensional observations and kinetic analyses of the relationship between internal and external forces in translation and rotational movements.
Occasional
ED - Department of Educational and Human Sciences

PET 6347. Advanced Coaching Methods
3(3,0) PR: Graduate standing. Stimulate philosophic thinking and foster a spirit of confidence in the coaching profession by showing coaches various methods they can use to teach their athletes.
Odd Spring
ED - Department of Educational and Human Sciences

PET 6357C. Environmental Perturbation and Human Performance
3(3,2) A study of physiological adaptation resulting from prescribed physical activity programs.
Occasional
ED - Department of Educational and Human Sciences

PET 6363. Dietary and Nutritional Supplementation for Athletic Performance
3(3,0) PR: Graduate standing or C.I. An in-depth study of the efficacy of dietary and nutritional supplements used to enhance athletic performance and improve activities of daily living.
Even Spring
ED - Department of Educational and Human Sciences

PET 6366. Exercise, Nutrition and Weight Control
3(3,0) PR: Graduate standing or C.I. Explores the interrelationship between nutrition, energy metabolism and exercise performance.
Occasional
ED - Department of Educational and Human Sciences

PET 6367. Bioenergetics of Human Movement and Performance
3(3,0) APK 4110C (or equivalent). Analysis of substrate metabolism at rest, during acute exercise and following exercise training.
Occasional
ED - Department of Child, Family and Community Sciences

PET 6376. Sport Nutrition
3(3,0) PR: Admission to the program or C.I. Study of the proper nutrition for training, the role of macro and micronutrients on the physiological processes of the body, and the importance of nutrient timing.
Even Fall
ED - Department of Educational and Human Sciences

PET 6381. Physiology of Neuromuscular Mechanisms
3(3,0) Human body morphology and function critical in producing motion, strength, power, and endurance.
Occasional
ED - Department of Educational and Human Sciences

PET 6388. Cardiovascular Physiology
3(3,0) PR: Anatomy and Physiology or equivalent. Operation of the cardiovascular system in vivo.
Occasional
ED - Department of Educational and Human Sciences

PET 6389. Physiological Aspects of Sport and Training
3(3,0) PR: Admission to program or C.I. An in-depth study of adaptations of various physiological systems to exercise training and the effects of environmental factors on physiological systems and performance.
Even Fall
ED - Department of Educational and Human Sciences

PET 6391. Training and Conditioning Techniques for Coaches
3(3,0) PR: PET 5355. Knowledge and application of training and conditioning as it relates to the improvement of physical athletic performance and fitness.
Occasional
ED - Department of Educational and Human Sciences

PET 6395. Program Design in Strength and Conditioning
3(3,0) PR: Admission to the program or C.I. An in-depth study of various types of training, including insights on developing athletes' strength, power, anaerobic conditioning, endurance, agility, and speed.
Odd Spring
ED - Department of Educational and Human Sciences

PET 6515. Assessment and Evaluation in Sport and Exercise Science
3(3,0) Admission to the program or C.I. Techniques of assessment and evaluation of human performance and their applications to health, sport, and exercise science.

ED - Department of Child, Family and Community Sciences

PET 6521. Exercise Physiology Instrumentation
3(3,0) Instrumentation management and assessment protocols related to select exercise physiological parameters: anthropometric, bioenergetic, blood lactate, joint flexibility, and muscle rheology, strength and fatigue curve measurements.

ED - Department of Child, Family and Community Sciences

PET 6645. Advanced Studies in Adapted Physical Education
3(3,1) EEX 5050. Survey course that addresses the development, educational, and socialization needs of exceptional children. A minimum of 15 observation hours are required.

ED - Department of Child, Family and Community Sciences

PET 6646. Methods and Curriculum in Adapted Physical Education
4(3,1) PET 6645, PET 6655. Individualized educational and developmental programming for exceptional children. Presents models of service delivery and instruction. Practicum required.

ED - Department of Child, Family and Community Sciences

PET 6647. Program Development in Adapted Physical Education
3(3,1) C.I. Development of appropriate physical education programs for exceptional children. Course includes teacher-consultant, collaboration, in-service training, legislative issues, resource utilization.

ED - Department of Child, Family and Community Sciences

PET 6655. Developmental Aspects of Motor Disabilities
3(3,1) C.I. Addresses developmental aspects of motor and health disabilities. A developmental focus is presented. Observation required.

ED - Department of Child, Family and Community Sciences

PET 6690. Exercise Prescription for Special Populations
3(3,0) PR: Admission to the program or C.I. Designed to provide the student the basic understanding of exercise testing and prescription as it pertains to special populations.
Odd Fall
ED - Department of Educational and Human Sciences

PET 6910. Problem Analysis - Review of Literature
3(3,0) PR: EDF 6432 and C.I. Comprehensive review of literature related to a selected topic in physical education; identification, analysis, and evaluation of developments, issues, and research problems. May be repeated for credit.

ED - Department of Educational and Human Sciences

PET 6946. Practicum, Clinical Practice
3-6(3-6,0) Field experience in a sport and exercise science organization, association or business. May be repeated for credit.
Fall,Spring,Summer
ED - Department of Educational and Human Sciences

PET 7365. Cardiovascular Dynamics During Exercise
3(3,0) Doctoral standing, PET 6388 or equivalent, or C.I. An examination of the cardiovascular regulatory mechanism responsible for the adjustment to acute and chronic exercise.
Occasional
ED - Department of Child, Family and Community Sciences

PET 7368. Regulation of Metabolism During Exercise
3(3,0) Doctoral standing or C.I. An examination of the metabolic regulatory mechanism responsible for the adjustment to acute and chronic exercise.
Occasional
ED - Department of Child, Family and Community Sciences

PET 7387. Exercise Endocrinology
3(3,0) PR: Admission to the program or C.I. An in-depth study of the neuroendocrine system and the hormonal responses to exercise.
Occasional
ED - Department of Educational and Human Sciences

PET 7535. Research & Experimental Design in Exercise Physiology
3(3,0) Doctoral standing or C.I. An examination of different experimental designs and application to exercise physiology research.
Occasional
ED - Department of Child, Family and Community Sciences

PGY 5108C. Advanced Techniques and Concepts in Photography
3(2,4) PR: PGY 2401C, PGY 3410C and PGY 4420C, or admission into MFA graduate program. Advanced techniques and concepts in photography, introducing historic and contemporary photographic works. May be used in the degree program a maximum of 3 times.
Occasional
CAH - School of Visual Arts and Design

PHC 6000. Epidemiology
3(3,0) PR: Admission to the Health Services Administration graduate program or C.I. A study of the distribution and determination of diseases and injuries in human populations.
Summer
HPA - Department of Health Management and Informatics

PHC 6003. Epidemiology of Chronic Diseases
3(3,0) PR: Admission to Health Sciences M.S. Clinical and Lifestyle Sciences track or C.I. Selected topics in chronic disease with critical analysis of the current epidemiologic literature is covered; opportunity to study methodological issues, contemporary findings and future direction of research.

HPA - Department of Health Professions

PHC 6010. Quantitative Methods in Epidemiology
3(3,0) PR: Admission to MS Health Sciences graduate program and PHC 6000. Principles of managerial epidemiology, quantitative methods, application of prostatistics, use of personal computers to handle data and solve problems.
Occasional
HPA - Department of Health Professions

PHC 6020. Introduction to Clinical Trials
3(3,0) PR: Admission to Health Sciences M.S. Clinical and Lifestyle Sciences track or C.I. An overview of clinical trials theory and design characteristics provides the background necessary to conduct single center and multi-center studies.
Spring
HPA - Department of Health Professions

PHC 6146. Health Planning and Policy
3(3,0) PR: Admission to Health Services Administration graduate program or C.I. Review of the determinants of the revolution of the health care system in the United States; analysis of public health, preventive medicine, and therapeutic medicine in terms of quality, access, and cost; methodologies and issues in comprehensive health planning; and trends in health policy development.
Fall
HPA - Department of Health Management and Informatics

PHC 6160. Health Care Finance
3(3,0) PR: HSA 5177 or passing score on finance assessment exam. The identification of resources available to health care institutions, allocation of resources, and control of resource expenditures.
Fall
HPA - Department of Health Professions

PHC 6164. Health Care Finance II
3(3,0) PR: PHC 6160. Course facilitates the development of strategic financial plans and its application to current health care management issues.
Occasional
HPA - Department of Health Professions

PHC 6183. Health Care Emergency Management
3(3,0) Graduate standing Broad overview of topics related specifically to how the health care industry addresses issues associated with disasters and emergencies.
Spring
HPA - Department of Health Management and Informatics

PHC 6411. Health and Society
3(3,0) Understanding health and illness as defined by patients, providers, and other persons in the social system.
Occasional
HPA - Department of Health Professions

PHC 6420. Case Studies in Health Law
3(3,0) PR: Admission to the Health Services Administration graduate program or C.I. Health law including patient care, liability, malpractice, workmen's compensation, and legal responsibilities of health personnel.
Spring
HPA - Department of Health Management and Informatics

PHC 6706. Introduction to Clinical Research
3(3,0) PR: Admission to Health Sciences M.S. Clinical and Lifestyle Sciences track or C.I. This course offers an introductory overview to clinical research. Course content focuses on key concepts beginning with an overview of the conception of research question.
Spring
HPA - Department of Health Professions

PHI 5225. Philosophy of Language
3(3,0) PR: Admission to graduate certificate in Cognitive Sciences or C.I. Philosophy of the nature of language and relationships between language, reality, cognition, and culture.
Occasional
CAH - Department of Philosophy

PHI 5325. Topics in Philosophy of Mind
3(3,0) PR: Admission into graduate certificate program in Cognitive Sciences or C.I. Contemporary issues in philosophy of mind, including explanatory gap, and the problem of other minds.
Occasional
CAH - Department of Philosophy

PHI 5327. Topics in the Cognitive Sciences
3(3,0) PR: Admission to graduate certificate program in Cognitive Sciences or C.I. Theoretical issues and empirical studies in the cognitive sciences, including contemporary discussions of mind, brain, artificial intelligence, pathologies, behavioral capacities.
Fall
CAH - Department of Philosophy

PHI 5328. Philosophies of Embodiment
3(3,0) PR: Admission to graduate certificate in Cognitive Sciences or C.I. Relations among mind, body, and nature. Knowledge of self, world and others as articulated by Western philosophy, with special emphasis on embodied cognition.
Occasional
CAH - Department of Philosophy

PHI 5329. Philosophy of Neuroscience
3(3,0) PR: Admission to graduate certificate in Cognitive Sciences or C.I. Neurophilosophy, including discussion of promises and limitations of neuroscience for understanding of the mind.
Occasional
CAH - Department of Philosophy

PHI 5340. Research Methods in the Cognitive Sciences
3(3,0) PR: Admission to graduate certificate program in Cognitive Sciences or C.I. Interdisciplinary research methods in the cognitive sciences.
Spring
CAH - Department of Philosophy

PHI 5627. Theoretical and Applied Ethics
3(3,0) PR: Senior undergraduate standing and at least one of the following: PHI 3670, PHI 3638, or graduate standing or C.I. A seminar in theoretical and applied ethics with emphasis on application in professional fields. Variable content.
Fall
CAH - Department of Philosophy

PHI 5634. Medical Ethics
3(3,0) PR: Graduate standing or C.I. Ethics for practitioners of clinical medicine, health care delivery and medical research.
Fall
CAH - Department of Philosophy

PHI 5665. Knowledge, Responsibility, and Society
3(3,0) PR: Senior undergraduate standing and at least one of the following: PHI 3670, PHI 3638, PHI 4300, PHI 4341, PHI 4400, PHI 4633, PHI 4931 or Graduate standing. A seminar exploring the relationship between ethics and epistemology with application to social concerns.
Variable content.
Occasional
CAH - Department of Philosophy

PHI 5687. Ethics in Science and Technology
3(3,0) Graduate standing or C.I. The relationship between ethics and the pursuit and application of human knowledge, emphasizing the responsibility of scientists to society.
Occasional
CAH - Department of Philosophy

PHI 6679. Digital Ethics
3(3,0) Graduate standing or C.I. Critical examination of the nature and scope of the digital and its ethical implications for social structures and institutions, and human and nonhuman nature.
Occasional
CAH - Dean's Office - CAH

PHM 5035. Environmental Philosophy
3(3,0) PR: PHI 3640, PHI 2630, graduate status or senior standing, or C.I. This course will provide an in-depth examination of the major contemporary positions in environmental philosophy, including deep ecology, ecofeminism, and social ecology.
Occasional
CAH - Department of Philosophy

PHT 5003. Foundations of Physical Therapy
2(2,0) PR: Admission to the Physical Therapy program. Introduction to the profession of physical therapy.
Summer
HPA - Department of Health Professions

PHT 5125. Clinical Kinesiology
2(2,0) CR: PHT 5125L. Investigates the mechanical aspects of human movement, joint mechanics of the upper and lower extremity, the vertebral column and tissue mechanics of relevant human tissues.
Summer
HPA - Department of Health Professions

PHT 5125L. Clinical Kinesiology Lab
2(0,4) CR: PHT 5125. Graduate level study of human musculoskeletal movement with an emphasis on joint mechanics and clinical applications.
Summer
HPA - Department of Health Professions

PHT 5218. Theories and Procedures I
2(2,0) CR: Theories and Procedures I Lab. Theories of physical agents, heat, light, cold, water, sound, and massage; problem solving rationale and selection of interventions for inflammation, pain, edema, and weakness.
Spring
HPA - Department of Health Professions

PHT 5218L. Theories and Procedures I lab
1(0,2) CR: Theories and Procedures I. Lab course on the clinical applications of heat, light,cold, water, sound, and massage.
Spring
HPA - Department of Health Professions

PHT 5240. Physical Assessment
1(1,0) PR: Physical Assessment Lab. Extensive theory and practice in the examination of the patient. Incorporate a systems approach, utilizing screening, and patient problem solving.
Fall
HPA - Department of Health Professions

PHT 5240L. Physical Assessment Lab
2(0,4) CR: Physical Assessment. Lab course emphasizing the examinations required to perform an evaluation of physical therapy patient.
Fall
HPA - Department of Health Professions

PHT 5241. Therapeutic Exercises I
2(2,0) CR: Therapeutic Exercises I Lab. Theory of developing, implementing, and evaluating a therapeutic exercise program for patients with musculoskeletal dysfunction.
Spring
HPA - Department of Health Professions

PHT 5241L. Therapeutic Exercise Lab I
2(0,4) PR: Therapeutic Exercise I. Lab course emphasizing therapeutic exercise skills for the treatment of patients with musculoskeletal dysfunction.
Spring
HPA - Department of Health Professions

PHT 5260. Patient Care Skills
2(2,0) CR: Patient Care Skills Lab. Affective, cognitive, and psychomotor skills, regarding patient care. Basic skills of patient care, transfers, mobility skills, draping, gait training.
Fall
HPA - Department of Health Professions

PHT 5260L. Patient Care Skills Lab
1(0,2) CR: Patient Care Skills. Skills of patient care, transfers, mobility skills.
Fall
HPA - Department of Health Professions

PHT 5718. Neurological Physical Therapy
2(2,0) CR: Neurological Physical Therapy Lab. Analysis of selected neuromotor theories and their clinical applications. Examinations and interventions for the evaluation and treatment of neurological patients presented.
Summer
HPA - Department of Health Professions

PHT 5718L. Neurological Physical Therapy Lab
1(0,2) CR: Neurological Physical Therapy. Lab Course emphasizing the clinical application of selected neuromotor theories.
Summer
HPA - Department of Health Professions

PHT 6070C. Radiology/Imaging for Physical Therapy
3(3,1) PR: Admission to DPT program. A diagnostic imaging course focusing on clinical implications in rehabilitation. The focus will be on patients with neurological and orthopedic disorders.
Fall
HPA - Department of Health Professions

PHT 6115C. Gross Anatomy/Neuroscience I
6(3,6) PR: Admission to DPT program. Study of human anatomy via lecture and cadaver dissection emphasizing upper and lower extremity, muscoloskeletal, peripheral vascular and peripheral nervous systems, thoracic and abdominopelvic cavities.
Summer
HPA - Department of Health Professions

PHT 6118C. Gross Anatomy/Neuroscience II
6(3,6) PR: Gross Anatomy/Neuroscience I. Comprehensive study of anatomy and physiology of the nervous system to develop DPT students' improved treatment strategies for patients with neurological problems.
Fall
HPA - Department of Health Professions

PHT 6119L. Seminar in Anatomical Sciences Techniques
2(0,6) PHT 6115C Gross Anatomy/Neuroscience or equivalent Development of skills as an anatomist with an emphasis on integrating a diverse repertoire of scientific technique.
Fall,Summer
HPA - Department of Health Professions

PHT 6156C. Applied Human Physiology for Health Sciences
5(3,2) PR: Admission to the Doctor of Physical Therapy program. Course provides in-depth study of human cardiovascular, hemopoietic, respiratory, gastrointestinal, renal and reproductive systems with emphasis on mechanisms responsible for maintaining homeostasis.
Fall
HPA - Department of Health Professions

PHT 6219. Theories and Procedures II
2(2,0) PR: Theories and Procedures I and lab; CR: Theories and Procedures II Lab. Continuation of Theories and Procedures I. Focus on electrodiagnosis and electrophysiologic examinations and the interventions used in the treatment of pain and dysfunction.
Summer
HPA - Department of Health Professions

PHT 6219L. Theories and Procedures II Lab
1(0,2) PR: Theories and Procedures I and lab; CR: Theories and Procedures II. Lab course focusing on electrodiagnosis and electrophysiologic examinations, and the interventions used in the treatment of pain and dysfunction.
Summer
HPA - Department of Health Professions

PHT 6242. Orthopedic Physical Therapy
2(2,0) CR: Orthopedic Physical Therapy Lab. Examination and interventions for the evaluation and treatment of specific orthopedic cases and injuries presented.
Fall
HPA - Department of Health Professions

PHT 6242L. Orthopedic Physical Therapy Lab
1(0,2) CR: Orthopedic Physical Therapy. Lab course emphasizing the examinations and interventions for the evaluation and treatment of specific orthopedic cases and injuries.
Fall
HPA - Department of Health Professions

PHT 6245. Therapeutic Exercise II
3(3,0) PR: Therapeutic Exercise I; CR: Therapeutic Exercise II Lab. Exploration of the various therapeutic exercise modalities, and their application to the rehabilitation course of treatment.
Fall
HPA - Department of Health Professions

PHT 6245L. Therapeutic Exercise II Lab
1(0,2) PR: Therapeutic Exercise I and Lab; CR: Therapeutic Exercise II. Lab course emphasizing the use of the various therapeutic exercise modalities.
Fall
HPA - Department of Health Professions

PHT 6306. Pathology/Pharmacology
4(4,0) PR: Admission to DPT program. Organized seminars on the pathophysiology and clinical manifestations and treatments of various medical conditions as they relate to medical management in physical therapy practice.
Spring
HPA - Department of Health Professions

PHT 6322C. Pediatric Physical Therapy
3(2,2) PR: Admission to DPT program. Study of the normal neurodevelopmental sequences for pediatric clinical assessment and physical therapy intervention provided to clients with abnormal diseases and dysfunction.
Fall
HPA - Department of Health Professions

PHT 6374C. Gerontology in Physical Therapy Practice
2(2,1) PR: Admission to the Doctor of Physical Therapy program. This course provides an introduction to physiological aging, the health status, and physical therapy management of the older adult. The course will focus on the normal aging process and its impact on the delivery of physical therapy to this population.
Spring
HPA - Department of Health Professions

PHT 6381C. Cardiopulmonary Physical Therapy
2(2,1) PR: Admission to DPT program. Examinations and interventions for the management of chronic and acute cardiopulmonary problems. Teaching patient strategies for preventing/managing dysfunction.
Fall
HPA - Department of Health Professions

PHT 6510. Administration of Anatomical Sciences Laboratory
1(1,0) PHT 6115C or equivalent The course focuses on developing administrative skills as an educator in the anatomical sciences emphasizing laboratory safety, health concerns, and cadaver procurement and storage.
Fall,Summer
HPA - Department of Health Professions

PHT 6521. Management of Physical Therapy Services
3(3,0) PR: Admission to DPT program. Planning, organizing, delivering and evaluating physical therapy services within a health care system, including quality management, third party payers, DRG's and legislative impact.
Spring
HPA - Department of Health Professions

PHT 6606. Research Methods in Physical Therapy
2(2,0) PR: Admission to DPT program. Methods of research applied to clinical environment of physical therapy. Coverage of the language, logic, design and analysis of clinical research.
Spring
HPA - Department of Health Professions

PHT 6618. Research Applications in Physical Therapy
2(2,0) PR: Research methods in Physical Therapy - PHT 6606. To evaluate research studies, focus on evidence-based practice. SPSS and principles of epidemiology will be introduced.
Fall
HPA - Department of Health Professions

PHT 6716C. Advanced Orthopedic Physical Therapy
2(2,1) PR: Orthopedic Physical Therapy; CR: Advanced Orthopedic Physical Therapy Lab. Specific rehabilitative protocols regarding particular orthopedic injuries and illnesses are presented. Focus on the previous course work in therapeutic modalities, anatomy, physiology, and therapeutic exercises incorporated.
Spring
HPA - Department of Health Professions

PHT 6719. Advanced Neurological Physical Therapy
2(2,0) PR: PHT 5718; CR PHT 6719L. Examinations and interventions for the evaluation and treatment of the neurological patient. Emphasis on patients with spinal cord injury and neurological diseases.
Fall
HPA - Department of Health Professions

PHT 6719L. Advanced Neurological Physical Therapy Lab
1(0,2) PR: PHT 5718L; CR PHT 6719. Course Emphasizing examinations and interventions for the evaluation and treatment of patients with neurological disease. Emphasis on patients with spinal cord injury and neurological disease.
Fall
HPA - Department of Health Professions

PHT 6720. Wound Care and Professional Issues
1(1,0) PR: Admission to Physical Therapy program. Instruction in specialized care provided by physical therapists and in professional issues relevant to the contemporary practice.
Spring
HPA - Department of Health Professions

PHT 6805C. Clinical Education I
3(1,15) PR: Admission to DPT program. Collaborative course where students meet to analyze, synthesize and discuss current professional, ethical and moral decision-making in physical therapy setting, culminating in a six-week clinical internship. Graded S/U.
Fall
HPA - Department of Health Professions

PHT 7021. Professional Practice in Physical Therapy
2(2,0) PR: Foundations of Physical Therapy. Professional development, ethics and strategies to address cultural diversity issues, communication skills and different styles of learning to prepare for clinical practice as a doctoring healthcare professional in physical therapy.
Spring
HPA - Department of Health Professions

PHT 7134C. Physical Therapy Integration II
2(2,1) PR: PHT 7722C - Physical Therapy Integration I. This course focuses on examinations and interventions for the evaluation and treatment of the spine. Various theoretical models explored. Case studies are used for integration of clinical information.
Spring
HPA - Department of Health Professions

PHT 7329C. Advanced Pediatric Physical Therapy
1(1,1) PR: Admission to DPT program. Course provides an advanced look into abnormal motor development, neurological and orthopedic diseases/conditions, interventions, examinations and other aspects of the patient/client management model for the pediatric population.
Fall
HPA - Department of Health Professions

PHT 7521C. Management of Physical Therapy Services II
2(2,1) PR: PHT 6521. Application of management, finance and economic health-related principles for strategy development, implementation and assessment for the physical therapy manager.
Fall
HPA - Department of Health Professions

PHT 7702C. Advanced Orthotics and Prosthetics
2(1,1) PR: PHT 6245, PHT 6245L. Advanced considerations for the amputee patient with regards to rehabilitation. Students will review the primary focal issues surrounding rehabilitation after an amputation and how prosthetics may assist with functional return.
Spring
HPA - Department of Health Professions

PHT 7721C. Advanced Orthopedic Physical Therapy II
1(1,1) PR: PHT 6716C. Designed to correlate all previous coursework in curriculum in study presentations. Advanced evaluation procedures included. Advanced knowledge of differential diagnosis in the orthopedic patient covered.
Fall
HPA - Department of Health Professions

PHT 7722C. Physical Therapy Integration I
2(2,1) PR: Admission to DPT program. This course emphasizes the differential diagnostic skills required of a physical therapist when deciding if physical therapy care is appropriate.
Fall
HPA - Department of Health Professions

PHT 7730C. Primary Care for the Physical Therapist
2(1,2) PR: Admission to DPT program. Students learn higher level diagnostic screening skills to make clinical decisions. The course takes a system approach including system review, clinical signs and symptoms and case studies.
Fall
HPA - Department of Health Professions

PHT 7742C. Acute Care Physical Therapy
2(1,1) PR: PHT 6306, PHT 7730C. Considerations and evidence-based evaluation, treatment, and management of patients in various settings within acute care.
Spring
HPA - Department of Health Professions

PHT 7764C. Advanced Neurological Treatment
2(1,1) PR: PHT 6719, PHT 6719L, PHT 7772C. This course can provide third year students with the opportunity to further explore evidence-based neurological intervention.
Spring
HPA - Department of Health Professions

PHT 7772C. Advanced Neurological Physical Therapy II
1(1,1) PR: PHT 6719 and PHT 6719L. Problem-based learning provides a team based interdisciplinary problem-solving environment where students devise solutions and approaches to problems encountered by physical therapists treating patients with neurological problems.
Fall
HPA - Department of Health Professions

PHT 7778C. Advanced Manual Therapy
2(1,1) PR: PHT 6716C, PHT 7721C. Concepts associated with advanced manipulative interventions in the context of physical therapy care. Indications and contra-indications will be reviewed and applied in a clinical context.
Spring
HPA - Department of Health Professions

PHT 7779C. Sports Physical Therapy
2(1,1) PR: Admission to the Doctor of Physical Therapy program. Considerations and evidence-based evaluation, treatment, and management of patients with sport-related injuries.
Spring
HPA - Department of Health Professions

PHT 7780C. Advanced Gerontology in Physical Therapy
1(1,1) PR: PHT 6374C. In depth discussion of physical therapist's role with elderly population. Includes examination, evaluation and development of intervention programs focusing on exercise, prevention, education and modification programs.
Fall
HPA - Department of Health Professions

PHT 7822C. Advanced Clinical Education I
6(1,40) PR: Admission to the Doctor of Physical Therapy program. Collaborative course for third year students to meet, analyze, synthesize and discuss current ethical, legal, and moral decision-making in physical therapy clinical setting culminating in internship. Graded S/U.
Summer
HPA - Department of Health Professions

PHT 7823C. Advanced Clinical Education II
4(1,20) PR: PHT 7822C. Clinical education course to synthesize ethical, legal, and professional contemporary practice with evidence-based intervention, culminating in a full-time, 8-week clinical internship in physical therapy practice setting.
Graded S/U.
Fall
HPA - Department of Health Professions

PHT 7829C. Advanced Clinical Education III
4(1,20) PR: PHT 7823C. Clinical education course to synthesize ethical, legal, and professional contemporary practice with evidence-based intervention, culminating in a full-time, terminal 8-week clinical internship in physical therapy practice setting prior to graduation. Graded S/U.
Spring
HPA - Department of Health Professions

PHT 7900. Capstone Project in Physical Therapy
3(3,0) PR: Admission to DPT program. Directed research culminating in a substantive paper related to the art or science of Physical Therapy.
Spring
HPA - Department of Health Professions

PHT 7999. Physical Therapy Residency
2(1,1) Beyond the earned Doctor of Physical Therapy degree and C.I. Instruction for post-professional physical therapy residency program fostering advanced clinical practice as outlined by the American Board of Physical Therapy Specialties.
Fall,Spring,Summer
HPA - Department of Health Professions

PHY 5015C. Physics for Teachers II
3(2,2) Graduate status or senior standing or C.I. "Hands-on" lecture-laboratory course. Dynamics, electricity, magnetism, optics, nuclear radiation.
Occasional
COS - Department of Physics

PHY 5140C. Ion-Solid Interactions
3(3,2) PHY 4604 or PHY 4324, graduate status or senior standing, or C.I. Physical principals and related scientific and technological applications of ion-solid interactions.

COS - Department of Physics

PHY 5255. Physics of Fluids and Biofluids
3(3,0) PR: PHY 3513, PHY 3323, and MAP 2302 or C.I. Ideal Fluids; Basic equation of fluid flow; Viscous flow, instability and turbulence; Thermal and mass transfers in fluids, biofluid mechanics of blood circulation.
Even Spring
COS - Department of Physics

PHY 5346. Electrodynamics I
3(3,0) PR: PHY 4324, and graduate status or senior standing or C.I. Boundary value problems in electrostatics and magnetostatics. Maxwell's equations. EM fields in matter, wave generation and propagation; wave guides, resonant cavities.
Fall
COS - Department of Physics

PHY 5524. Statistical Physics
3(3,0) PR: PHY 3513, STA 3032, and graduate status or senior standing or C.I. A study of physical concepts and methods appropriate for the description of systems involving many particles. Ensemble theory, partition functions. Maxwell Boltzmann, Bose-Einstein, Fermi-Dirac statistics.
Spring
COS - Department of Physics

PHY 5606. Quantum Mechanics I
3(3,0) PR: PHY 4605, and graduate status or senior standing or C.I. Basic postulates of quantum mechanics, operators, eigenvalues, parity, potential wells, harmonic oscillator, time dependent and time independent Schrodinger equation, matrix formulation, and time independent perturbation theory.
Fall
COS - Department of Physics

PHY 5704. Physics of Nanoelectronics Devices
3(3,0) PR: Graduate standing or C.I. Fabrication techniques of nanoscale electronic devices and understanding of their charge transport properties.
Odd Fall
COS - Department of Physics

PHY 5715. Physical Basis of Life
3(3,0) PR: Graduate standing or C.I. Molecular and physical principles of origin of life, physical and chemical interpretation of life processes.
Fall
COS - Department of Physics

PHY 5817L. Building Physics Apparatus
1(0,3) PR: Graduate standing or senior standing and C.I. Hands-on shop course. Focus will be machine shop practice with possible extension to printed circuit boards and glass work.

COS - Department of Physics

PHY 5933. Selected topics in biophysics of macromolecules
3(3,0) PR: PHY 3101, CHM 2046, and graduate status or senior standing or C.I. Physical concepts and techniques used in the spectroscopic study of dynamic structure and function of biological macromolecules such as proteins; Connections with other complex systems. May be repeated for credit.
Occasional
COS - Department of Physics

PHY 6246. Classical Mechanics
3(3,0) PR: C.I. Variational principles. Lagrange, Hamiltonian, and Poisson bracket formulations of mechanics. Hamilton's principle of least action. Hamilton-Jacobi theory. Perturbation theory. Continuous systems. Chaos.
Occasional
COS - Department of Physics

PHY 6347. Electrodynamics II
3(3,0) PR: PHY 5346 or C.I. Dynamics of charged particles in electromagnetic fields. Antennas; radiation by moving charges; magnetohydrodynamics; multipole radiation and electrodynamics of materials.
Odd Spring
COS - Department of Physics

PHY 6353. Accelerator Physics
3(3,0) PHY 6347. Dynamics of charged particles in electromagnetic fields, electron optics, details of the electrostatic accelerator, the linear accelerator, and cyclic accelerators; properties of cavities and orbiting electrons; new accelerator schemes, including the free electron laser.

COS - Department of Physics

PHY 6355. Physics of Free Electrons
3(3,0) PHY 6347. Interaction between electrons and fields, transmission lines, microwave tubes and waveguides, synchrotron radiation and undulators, the free electron laser in both the Compton and Raman regimes.

COS - Department of Physics

PHY 6600C. Theory and Computations of Molecular Wavefunctions
3(2,2) PR: Undergraduate Quantum Mechanics or Physical Chemistry or C.I. Approximate method of solving electronic Schrodinger equation for molecular systems: Hartree-Fock and semiempirical methods, basis sets, multireference wavefunction theory methods, potential surfaces, and electronic transitions.
Even Fall
COS - Department of Physics

PHY 6624. Quantum Mechanics II
3(3,0) PR: PHY 5606 or C.I. Time dependent perturbation theory, exchange symmetry, Dirac Equation, second quantization, and scattering theory.
Spring
COS - Department of Physics

PHY 6667. Quantum Field Theory I
3(3,0) PR: PHY 6347 and PHY 6624 or C.I. Second quantization and fields, relativistic equations, path integral quantization, gauge fields.

COS - Department of Physics

PHY 6673. Advanced Quantum Mechanics
3(3,0) PR: PHY 6624. Fields, radiation, Klein-Gordon equation, Dirac equation, relativistic quantum scattering, photon propagator.

COS - Department of Physics

PHY 7669. Quantum Field Theory II
3(3,0) PR: PHY 6667 or C.I. Regularization, renormalization, spontaneous symmetry breaking, unification, topological objects, supersymmetry.

COS - Department of Physics

PHZ 5156. Computational Physics
3(3,0) PR: PHZ 3151 or C.I. Computational methods applied to the solution of problems in many branches of physics. May be repeated for credit.
Fall
COS - Department of Physics

PHZ 5304. Nuclear and Particle Physics
3(3,0) PHY 4604 or equivalent, and graduate status or senior standing or C.I. Particles and nuclei, symmetries and conservation laws, interactions, models.
Occasional
COS - Department of Physics

PHZ 5405. Condensed Matter Physics
3(3,0) PR: PHY 4604, PHY 3101, and graduate status or senior standing or C.I. Crystal lattice cell structure, phonons, free electron model, band theory of solids, Fermi surface, solid state applications, and polymers.
Occasional
COS - Department of Physics

PHZ 5425C. Electron Solid Interactions
3(3,3) PR: Undergraduate senior or graduate status or C.I. The physics and applications of electron interactions with solids. Classroom and hands-on laboratory content.
Occasional
COS - Department of Physics

PHZ 5432. Introduction to Soft Condensed Matter Physics
3(3,0) PR: PHY 3513 or C.I. Introduction to the physics of polymers, colloids, surfactants using basic tools of statistical mechanics.
Occasional
COS - Department of Physics

PHZ 5437. Nanoscale Surface Physics
3(3,0) PR: Undergraduate Quantum Mechanics at the level of PHY 4604 or C.I. Overview of physical and chemical properties of nanoscale surfaces.

COS - Department of Physics

PHZ 5505. Plasma Physics
3(3,0) PR: PHY 4324, and graduate status or senior standing or C.I. Introduction to theory and experimental basis of both weakly and highly ionized plasmas. Instabilities, plasma waves, nonlinear effects, controlled thermonuclear fusion.
Occasional
COS - Department of Physics

PHZ 5625. General Relativity
3(3,0) Graduate standing or C.I. Introduction to Einstein's theory of gravitation.
Odd Spring
COS - Department of Physics

PHZ 6234. Atomic Physics
3(3,0) PR: PHY 6624 or OSE 6347. Brief review of spectroscopy, photoionization, inner shell processes, Auger effect, atom-atom collisions, electron-atom collisions, spin polarization.

COS - Department of Physics

PHZ 6420. First Principles Computational Methods in Condensed Matter Physics
3(3,0) PR: PHY 5606 Quantum Mechanics I. Introduction to density functional theory and first principles computational methods used in modern condensed matter physics with hand-on sessions using computers.
Occasional
COS - Department of Physics

PHZ 6426. Condensed Matter Physics I
3(3,0) PR: PHY 5606, and either PHY 6624 or OSE 6347. Quantum theory of crystalline solids: crystals, electronic band structure, metals, insulators, semiconductors, electron interactions in solids, lattice dynamics.
Occasional
COS - Department of Physics

PHZ 6428. Condensed Matter Physics II
3(3,0) PR: PHZ 6426. Many-body theory: Green's functions, Feynman diagrams, screening in the electron gas, linear response theory, magnetism, conductivity, electron-phonon interactions, superconductivity, superfluids.
Occasional
COS - Department of Physics

PHZ 6439. Interfacial Physics
3(3,0) Graduate standing and PHY 5606, or C.I. A conceptual understanding of fundamental electronic and structural characteristics relevant to surfaces and the experimental methodologies used to investigate them.
Odd Fall
COS - Department of Physics

PLA 5587. Current Issues in Cyberlaw
3(3,0) PR: Graduate standing or C.I. Advanced examination and discussion of free speech, copyright, trademark, patent and privacy issues in the online environment through interactive class discussions, online discussions, postings, case study reviews, and legal research projects.
Occasional
HPA - Department of Legal Studies

PLA 6486. Administrative Law
3(3,0) PR: Graduate standing or C.I. The study of administrative law and procedure on the federal, state and local levels.
Spring
HPA - Department of Legal Studies

PLA 6487. Legal and Ethical Compliance
3(3,0) PR: Admission to Master of Research Administration program or C.I. Critical compliance issues and the importance of responsible conduct of research including export control, conflict of interest, protection of animal/human subjects and research misconduct.
Occasional
HPA - Department of Legal Studies

PLA 6488. Legal and Regulatory Framework
3(3,0) PR: Admission to Master of Research Administration program or C.I. Outline the various requirements governing research (OMB Circulars, Federal Acquisition Regulations and other federal state and local regulations).
Occasional
HPA - Department of Legal Studies

POS 6045. Seminar in American National Politics
3(3,0) PR: Admission to a graduate degree-seeking program or C.I. Examines major aspects of the American system, including mass behavior, public opinion, and political institutions.
Fall
COS - Department of Political Science

POS 6127. State Politics
3(3,0) PR: Graduate or post bac status. The graduate course in state politics surveys political behavior, processes, institutions and policies among the fifty states.
Occasional
COS - Department of Political Science

POS 6174. Seminar in Southern Politics
3(3,0) PR: Graduate standing or C.I. Will provide an overview of the political and social changes that have occurred in the American South in the post-World War II period.
Occasional
COS - Department of Political Science

POS 6207. Political Behavior
3(3,0) PR: Graduate status. A review of theory and findings in regard to mass political behavior, including participation, voter choice, public opinion, collective action, and communication.
Occasional
COS - Department of Political Science

POS 6403. Teaching American Political Institutions
3(3,0) PR: Post bac or graduate status. Seminar will equip students with essential knowledge of American politics and explore technologies for transferal of this knowledge into the secondary and college level classroom.
Occasional
COS - Department of Political Science

POS 6415. The American Presidency
3(3,0) Graduate standing or C.I. Presidency research with attention to historical, personal, institutional, and political development.
Occasional
COS - Department of Political Science

POS 6427. Congress and the Legislative Process
3(3,0) PR: Graduate standing or C.I. Examination of Congress as a dynamic institution with emphasis on general legislative procedures, legislator recruitment, institutional rules, legislative norms, and the committee system.
Even Fall
COS - Department of Political Science

POS 6639. Seminar in Public Law and Judicial Politics
3(3,0) PR: Graduate or post bac status. This course is intended to acquaint students broadly with the scholarly literature in the subfield of Public law. It surveys the meaning of the field and its development, using books and articles to illustrate the major research and teaching concentrations in the subfield.
Occasional
COS - Department of Political Science

POS 6686. National Security Law
3(3,0) Graduate standing or C.I. Domestic and international law affecting national security, with emphasis on branches' competing legal claims of authority and law affecting modern security challenges
Occasional
COS - Department of Political Science

POS 6736. Conduct of Political Inquiry
3(3,0) PR: Admission to graduate program or C.I. Research design and quantitative and qualitative analysis in political science.
Fall
COS - Department of Political Science

POS 6743. Geographic Tools for Political Science Research
3(3,0) PR: Graduate standing or C.I. Provides an introduction to the theoretical assumptions, analytical possibilities and application of geographic tools of analysis for political science research.
Odd Spring
COS - Department of Political Science

POS 6746. Quantitative Methods in Political Research
3(3,0) PR: Admission to a graduate degree-seeking program or C.I. Methods of model building and research design, including conceptualization and measurement of political variables; techniques of data collection and quantitative analysis and computer usage.
Occasional
COS - Department of Political Science

POS 6747. Advanced Topics in Quantitative Political Analysis
3(3,0) PR: Admission to the graduate program. Successful completion of POS 6746, or equivalent, or C.I. Advanced topics in quantitative political analysis, including OLS variants, regression problems, time series, limited dependent variables and SPSS.
Occasional
COS - Department of Political Science

POS 6938. Special Topics/Political Analysis
3(3,0) This course title covers all political analysis special topics courses which are not listed in the catalog with a course number. May be repeated for credit only when course content is different.
Occasional
COS - Department of Political Science

POS 7267. Professional Development: The Practice of Security Studies
1(1,0) PR: Admission to Security Studies Ph.D. program or C.I. Addresses ethics in security studies and prepares students for careers in the security sector, including topics such as ethics in decision making. Graded S/U.
Even Spring
COS - Department of Political Science

POS 7707. Advanced Qualitative Methods in Political Research
3(3,0) PR: Admission to Security Studies Ph.D. or C.I. Advanced qualitative methods employed in political science research, including case studies, the logic of comparison, and archival and interview-based research.
Odd Spring
COS - Department of Political Science

POS 7745. Advanced Quantitative Methods in Political Research
3(3,0) PR: Admission to Security Studies Ph.D. or C.I. Survey of advanced quantitative methods used in political science research, including problems in regression analysis and nonlinear models.
Even Spring
COS - Department of Political Science

POS 7930. Professional Development: Academic Careers in Security Studies
1(1,0) PR: Admission to Security Studies Ph.D. program or C.I. Prepares students for teaching, submission of articles to peer-reviewed journals, grant writing, ethics in the discipline, and other questions related to an academic career. Graded S/U.
Odd Spring
COS - Department of Political Science

POT 6007. Seminar in Political Theory
3(3,0) PR: Admission to a graduate degree-seeking program or C.I. An examination of analytic and normative theories of politics and society, using selected topics as a substantive focus.
Occasional
COS - Department of Political Science

PPE 5055. Personality Theories
3(3,0) PR: Graduate status or senior standing or C.I. Critical theoretical models of personality development with applications to counseling, psychotherapy and psychological assessment.
Occasional
COS - Department of Psychology

PSB 5005. Physiological Psychology
3(3,0) PR: PSB 3002 and graduate status or senior standing or C.I. An advanced survey of the physiological basis of behavior, emphasizing the relationship between the nervous system and behavior.
Occasional
COS - Department of Psychology

PSB 6328. Psychophysiology
3(3,0) Graduate standing, or C.I. Anatomy and function of the nervous system, use of psychophysiological recording methods, and design of studies exploring the biological bases and indicators of behavior.
Spring
COS - Department of Psychology

PSB 6348. The Neuroanatomical Basis of Psychological Function
3(3,0) Graduate standing, or C.I. Fundamental human neuroscience course that includes thorough review of neuroanatomy and physiology at cellular, anatomical and functional region levels in the context of psychological function.
Fall
COS - Department of Psychology

PSB 6352. Neuroimaging Design and Analysis Methods
3(3,0) Graduate standing or C.I. Overview and hands-on practice in design of neuroimaging studies and analysis of neuroimaging data.
Spring
COS - Department of Psychology

PSB 7349. Advanced Topics in Cognitive Neuroscience
3(3,0) Graduate standing, or C.I. In-depth study of the neural substrates underlying cognitive processing (e.g., attention, memory, language) and the linkage between the brain and behavior.
Fall
COS - Department of Psychology

PSY 5605. History and Systems of Psychology
3(3,0) PR: Acceptance to Clinical Psychology PhD program or C.I. An examination of modern American psychology from its origins in the late 19th century to the present time. This course is intended for the PhD in Clinical Psychology; in certain instances graduate students in other programs may enroll.
Odd Fall
COS - Department of Psychology

PSY 6216C. Research Methodology
4(3,2) PR: Admission to Industrial Organizational Psychology M.S., Clinical Psychology M.A., or Clinical Psychology M.S., or C.I. Logic and procedures of psychological research and evaluation; application of experimental and non-experimental techniques in analyzing psychological variables; review of relevant psychological research.
Occasional
COS - Department of Psychology

PSY 6308C. Psychological Testing
4(3,2) PR: Admission to Industrial Organizational Psychology M.S. or C.I. Theory of test construction, including test reliability and validity.
Occasional
COS - Department of Psychology

PSY 6918. Directed Research
var PR: Graduate standing and C.I. Directed Research. Graded S/U. May be repeated for credit.
Occasional
COS - Department of Psychology

PSY 7217C. Advanced Research Methodology I
4(3,2) PR: Admission to Psychology Ph.D. or C.I. Logic and procedures of psychological research and evaluation; application of experimental and non-experimental techniques in analyzing psychological variables; review of relevant psychological research.
Occasional
COS - Department of Psychology

PSY 7218C. Advanced Research Methodology II
4(3,2) PR: PSY 7217C or C.I. Structure and planning of complex psychological experiments; internal and external validity; application of advanced experimental procedures in analyzing psychological variables; review of relevant psychological research.
Occasional
COS - Department of Psychology

PSY 7219C. Advanced Research Methodology III
4(3,2) PR: PSY 7217C and PSY 7218C, or C.I. Application of research design and statistical problems to selected human factors, industrial and/or clinical settings.
Occasional
COS - Department of Psychology

PSY 7315. Psychometric Theory and Practice
3(3,0) PR: PSY 6216C and graduate admission. The construction, evaluation, and use of psychological measures; classical test theory, views of reliability, and item analysis; validity; generalizability theory; item response theory.
Spring
COS - Department of Psychology

PUP 6007. Public Policy Analysis
3(3,0) Admission to a graduate degree-seeking program or C.I. Examination of the role of the state and the policy process (agenda-setting, formulation, implementation), and case studies in environmental, economic, education, welfare or other policy.
Occasional
COS - Department of Political Science

PUP 6015. Comparative Public Policy
3(3,0) PR: Graduate standing or C.I. Comparative public policy theories applied to immigration, education, trade, taxation, and fiscal policy.
Occasional
COS - Department of Political Science

PUP 6201. Urban Environmental Policy
3(3,0) PR: Graduate standing or C.I. Covers the relationship between public policy, ecology, and the urban political landscape by tracing the trajectory of its development and prospects for sustainable cities.
Occasional
COS - Department of Political Science

PUP 6208. Environmental Politics
3(3,0) PR: Admission to a graduate degree-seeking program or C.I. Examines the political ideas and practices which have shaped environmental politics and practices in the U.S.
Occasional
COS - Department of Political Science

PUP 6247. Contemporary Issues in Environmental Politics
3(3,0) Graduate standing. A detailed examination of recent developments in one or more areas of environmental politics. Topics may include land and water regulation and pollution control.
Occasional
COS - Department of Political Science

PUP 6324. Women and Public Policy
3(3,0) Graduate standing. Analyzes U.S. public policies with differential impact on women, including policies regarding employment, family, health, reproduction and sexuality. Strong theoretical emphasis.
Occasional
COS - Department of Political Science

PUP 6607. Politics of Health
3(3,0) PR: Graduate or post bac status. Analysis of public health policies, primary focus upon political processes, policy makers, and interest groups. Comparative health practices.
Occasional
COS - Department of Political Science

PUP 6938. Special Topics/Public Policy
3(3,0) Admission to graduate program or C.I. This course title covers all public policy special topics courses which are not listed in the catalog with a course number. May be repeated for credit only when course content is different.
Occasional
COS - Department of Political Science

PUR 6005. Theories of Public Relations
3(3,0) PR: Admission to Communication M.A. program or C.I. Focus on theories of public relations with implications for communications practices in corporate and other organizations and government agencies.
Occasional
COS - Nicholson School of Communication

PUR 6215. Communicating Corporate Social Responsibility
3(3,0) Graduate standing or C.I. Communication processes required for developing, implementing, publicizing, and evaluating corporate social responsibility program in organizations.
Occasional
COS - Nicholson School of Communication

PUR 6403. Crisis Public Relations
3(3,0) PR: C.I. The course examines the management of crisis situations from a PR perspective, as well as how to manage issues to prevent them from becoming crises.
Occasional
COS - Nicholson School of Communication

PUR 6405. Communication and Public Relations in Politics and Government
3(3,0) COM 6008 or C.I. Role of professional and practical public relations communication skills and knowledge in contemporary politics and government.
Fall
COS - Nicholson School of Communication

QMB 6755. Models for Business Decisions
3(3,0) PR: Acceptance into a graduate business program of study. Examines quantitative techniques useful for the solution of business problems. Mathematical model building to aid the decision-making process is stressed. Techniques applied through case analysis.
Occasional
BA - Department of Management

QMB 7565. Applied Statistical Business Decision Models
3(3,0) PR: Admission to Business doctoral program; ECO 6416 or equivalent; or C.I. Logic and procedures used in research and data evaluation in the business sciences applying advanced statistical models to decision-making problems.
Occasional
BA - Department of Economics

QMB 7567. Measurement Theory in Business Research
3(3,0) Admission to Business Administration Ph.D. program. This course provides doctoral students with a foundation in psychometrics and general measurement theory for economic, psychological and sociological-based business research.

BA - Dean's Office - BA

RED 5147. Developmental Reading
3(3,0) Graduate standing or C.I. Principles, procedures, organization, and current practices in the elementary reading program. Materials and methods of instruction.

ED - School of Teaching, Learning, and Leadership

RED 5517. Classroom Diagnosis and Development of Reading Proficiencies
3(3,1) PR: RED 5147 or equivalent. Classroom diagnosis and corrective teaching in reading; instructional materials. Case study required.
Even Fall,Spring
ED - School of Teaching, Learning, and Leadership

RED 5948. Practicum in Reading Assessment and Instruction
3(3,0) PR: RED 5517. Practicum that requires application of reading assessment and instruction in order to increase reading proficiency of struggling readers. Concurrent K-12 field experiences required.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

RED 6116. Advanced Study in Foundations of Reading
3(3,0) PR: RED 5147 or C.I. Historical development and current research-based practice related to language and cognitive foundations of reading components: phonemic awareness, phonics, vocabulary, fluency, comprehension, investigation of research.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

RED 6336. Reading in the Content Areas
3(3,0) PR: Basic Teacher Certificate or C.I. Identification and evaluation of reading skills, diagnosis of reading problems, and development of methods and materials to increase student reading performance.
Fall
ED - School of Teaching, Learning, and Leadership

RED 6337. Reading in the Secondary School
3(3,0) PR: RED 6336, Basic Teacher Certification, or C.I. Nature of the adolescent reader; organizational patterns, principles, and procedures; diagnostic and remediation materials.
Spring
ED - School of Teaching, Learning, and Leadership

RED 6746. Management of Reading Programs
3(3,0) Overview of K-12 reading instruction goals and program management models; role of reading supervisor and in-service needs assessment and delivery.
Spring
ED - School of Teaching, Learning, and Leadership

RED 6845. Advanced Evaluation and Instruction in Reading
3(3,0) PR: RED 5517 or C.I. Administration and interpretation of formal and informal evaluation strategies. Factors and instructional techniques contributing to reading achievement. Case studies, parent involvement.
Summer
ED - School of Teaching, Learning, and Leadership

RED 6846. Reading Practicum
6(0,6) PR: RED 6845 or C.I. Evaluation and instructional practices for individualization of reading instruction in a laboratory setting. Parent interview and case report.
Summer
ED - School of Teaching, Learning, and Leadership

RED 6946. Practicum, Clinical Practice
3(3,0)

ED - School of Teaching, Learning, and Leadership

RED 7648. Analysis and Evaluation of Trends and Issues in Literacy Education
3(3,0) PR: RED 7797. Critical analysis and evaluation of trends and issues in literacy education: research, policy, and instruction.
Even Summer
ED - School of Teaching, Learning, and Leadership

RED 7697. Literacy for the Twenty-First Century
3(3,0) PR: RED 6116, RED 7797, RED 7648. Investigates changing role of literacy in a technology-based world; explores issues of literacy in an increasingly diverse world.
Spring
ED - School of Teaching, Learning, and Leadership

RED 7743. Reading and Writing Processes
3(3,0) PR: RED 5147 or equivalent. Investigates reading and writing as interrelated processes; focuses on research that shapes reading and writing instruction in the U.S.
Spring
ED - School of Teaching, Learning, and Leadership

RED 7745. Research in Reading Education Seminar
3(3,0) PR: RED 5147 or equivalent; RED 6116. The study of the reading research process and the design of a research proposal in the reading education field.
Even Fall
ED - School of Teaching, Learning, and Leadership

RED 7797. Theoretical Processes of Reading Comprehension
3(3,0) PR: RED 5147 or equivalent. Investigates theoretical processes and factors related to comprehension. Studies relevant issues and research.
Fall
ED - School of Teaching, Learning, and Leadership

RED 7947. Internship in Reading Education
3(3,0) PR: Admission to the PhD in Education--Reading Education Track. College teaching of reading education courses under supervision of reading education faculty mentor. Graded S/U. May be used in the degree program a maximum of 3 times.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

REE 6006. Real Estate Markets and Institutions
3(3,0) PR: Acceptance into the MS Real Estate program. Overview of the core real estate concepts, property fundamentals, and the role of various institutions in real estate transactions and operations.
Occasional
BA - Department of Finance

REE 6147. Real Estate Market Analysis and Appraisal
3(3,0) PR: FIN 6406, acceptance into the MS Real Estate program. An applied introduction to the major concepts, principles and methods used in appraising commercial real estate, performing market analysis, and basic economic analysis.
Occasional
BA - Department of Finance

REE 6209. Real Estate Finance and Investment Analysis
3(3,0) PR: FIN 6406, acceptance into the MS Real Estate program. Direct real estate investing in the apartment, office, industrial and retail sectors. Financing real estate transactions, real estate capital markets, and investment analysis.
Occasional
BA - Department of Finance

REE 6455. Real Estate Law
3(3,0) PR: Acceptance into the MS Real Estate program. Overview of the legal system and key laws affecting real estate. Emphasis on property rights, contracts, development law, theory of title, and commercial leases.
Occasional
BA - Department of Finance

REE 6737. Real Estate Development
3(3,0) PR: Must take in final term of the MS Real Estate program. Capstone project course covering the real estate development process, regulatory considerations, financial and market feasibility, management control, and environmental aspects of real estate development.
Occasional
BA - Department of Finance

SCE 5325. Teaching Middle School Science
3(3,0) PR: EDG 6415, TSL 5085 or admission to MED program or Initial Teacher Professional Preparation certificate. This course will provide experiences that promote effective science teaching in grades 5-9 including interdisciplinary teaming, technology use, ESOL, and inquiry in science.
Occasional
ED - School of Teaching, Learning, and Leadership

SCE 5337. Issues and Methods in Secondary School Science
3(3,0) PR: EDG 6415, TSL 5085, or admission to MED program or Initial Teacher Professional Preparation certificate. Secondary science education special methods course is designed to augment students' understanding of instructional methods and their applications to middle and high school science curriculum.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

SCE 5836. Space and Physical Science for Educators
3(3,0) PR: Graduate standing or C.I. Introduction to space and physical science, manned space flight, and space education curriculum.
Summer
ED - School of Teaching, Learning, and Leadership

SCE 6137. Science Programs in Secondary School
3(3,0) Basic Teacher Certificate or C.I. Study of historical development and current trends; analysis of science curricula, materials.

ED - School of Teaching, Learning, and Leadership

SCE 6315. Methods in Elementary School Science
3(3,0) PR: EDE 6933 or C.I. Organization of instruction in elementary school science including methods, evaluation, materials, strategies, and current practices.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

SCE 7145. Design of Post Secondary Science Curriculum
3(3,0) PR: Doctoral standing, admission to the PhD or EdD Education programs, and C.I. Successful completion of ESE 6217 or an approved equivalent. This course will examine issues of curriculum theory, research, and practice at the post-secondary level situated in science education.
Odd Fall
ED - School of Teaching, Learning, and Leadership

SCE 7146. Professional Issues in Science Education
3(3,0) PR: Admission to the PhD in Education or C.I. Students will study issues and forces that have shaped science education policies, classroom practices, ethics development, and professional identity.

ED - School of Teaching, Learning, and Leadership

SCE 7242. Assessment in Science Teaching, Learning and Research
3(3,0) PR: Doctoral standing, admission to the PhD or EdD Education programs, and C.I. This course will examine current instruments/tools used in science assessment covering standardized science testing and authentic and performance-based science assessments.
Odd Fall
ED - School of Teaching, Learning, and Leadership

SCE 7746. Teaching Theory and Research in Science Education
3(3,0) PR: Admission to the PhD in Education or C.I. Course will provide students means to become familiar with trends and current status of research in science teaching and learning.

ED - School of Teaching, Learning, and Leadership

SCE 7864. Science Technology and Society
3(3,0) PR: Admission to the PhD in Education or C.I. The course is focused on the history of science in the U.S. with particular emphasis on institutional configurations that emerged in the period since nationhood.

ED - School of Teaching, Learning, and Leadership

SCE 7935. Seminar--Professional Writing/Grants in Science Education
3(3,0) PR: Admission to the Ph.D. in Education or C.I. The focus of the course is on scholarly writing and grant writing in science teaching, learning, assessment and relationships.

ED - School of Teaching, Learning, and Leadership

SCE 7942. Internship/Practicum in Science Education
3(3,0) PR: Admission to the PhD in Education or C.I. The focus of this course is students' participation in current research projects in science/science education.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

SCE 7980. Doctoral Dissertation
0-12(0-12,0) PR: Taken and passed comprehensive exam. Approval of Education Ph.D SCE?track program coordinator. May be repeated for credit. Graded S/U.

ED - School of Teaching, Learning, and Leadership

SDS 6200. Procedures for Group Testing
3(2,1) EGC 5005 or EGC 6426, EDF 6481 or EDF 6482. Survey of various educational and psychological objective instruments used in schools to measure achievement, aptitude, interests, ability. Emphasis on administration and score interpretation.
Occasional
ED - Department of Educational and Human Sciences

SDS 6308. Applied Practice in Career Services
3(3,0) SDS 6347 and SDS 6XXX Career and College Readiness in Schools PK-12 This course provides an opportunity to work with individuals in various school and community settings to experience career development activities.
Fall
ED - Department of Child, Family and Community Sciences

SDS 6347. Career Development
3(3,0) PR: C.I. A study of career development theories, occupational and educational information, approaches to career decision-making life-style and leisure in the development of the whole person.
Odd Fall,Even Spring
ED - Department of Child, Family and Community Sciences

SDS 6411. Counseling with Children and Adolescents
3(3,0) PR: EGC 6436 and EDF 6155 or C.I. Study of counseling theory, process, and techniques as applied to children and adolescents. Course will contain an experiential component.
Spring
ED - Department of Child, Family and Community Sciences

SDS 6620. Coordination of Comprehensive Professional School Counseling Programs
3(3,0) PR: MHS 5005, MHS 6400, MHS 6401, MHS 6500, MHS 6702. In-depth analysis of comprehensive developmental professional school counseling programs, including the coordination of these programs.
Odd Spring,Summer
ED - Department of Child, Family and Community Sciences

SDS 6622. Career and College Readiness in Schools PK-12
3(3,0) Graduate standing or C.I. This course provides graduate students and practitioners with a developmental overview of child and adolescent career growth focusing on interventions for career education and counseling.
Summer
ED - Department of Child, Family and Community Sciences

SDS 6947. Internship in Professional School Counseling
1-6(1, 1-6) PR: MHS 5005, MHS 6400, MHS 6401, MHS 6500, MHS 6702, MHS 6803, SDS 6620. Supervised fieldwork experience in professional school counseling, emphasizing experiences that support the development of student interns' counseling competencies and delivery of comprehensive services to all students. Graded S/U. May be repeated for credit.
Even Fall,Even Spring,Even Summer
ED - Department of Child, Family and Community Sciences

SED 6340. Teaching Communication
3(3,0) PR: Graduate standing or C.I. Develop best practices for teaching public speaking, interpersonal, persuasion, small group, organizational, mass, and intercultural communication concepts and skills.
Occasional
COS - Nicholson School of Communication

SOP 5059. Advanced Social Psychology
3(3,0) PR: SOP 3004C, graduate status or senior standing, or C.I. The major findings and theories in social psychology including an in-depth review of relevant research.
Occasional
COS - Department of Psychology

SOW 5105. Human Behavior and Social Environment I: Individual
3(3,0) PR: Admission to MSW program. Study of human development and psychosocial functioning of individuals at various life stages with particular attention to implications of human diversity.
Fall
HPA - School of Social Work

SOW 5106. Human Behavior and Social Environment II: Social Systems
3(3,0) Study of the patterns and dynamics of families, groups, organizations, and communities from a social work and a systems perspective.
Spring
HPA - School of Social Work

SOW 5107. Human Behavior in the Social Environment
3(3,0) Admission to MSW program Study of human development and psychosocial functioning of individuals. groups, families and communities with particular attention to implications of human diversity.
Fall,Spring,Summer
HPA - School of Social Work

SOW 5132. Diverse Client Populations
3(3,0) Study of human diversity, focusing on the needs, resources, problems, and service issues of several identified minority client populations.
Spring
HPA - School of Social Work

SOW 5149. Military and Veteran Culture with Historical Frameworks
3(3,0) PR: Admission to Master of Social Work program or C.I. Thorough analysis of military and veteran systems. Provides the frameworks to assist social workers in better understanding, communicating and practicing with veterans and their families.
Spring,Summer
HPA - School of Social Work

SOW 5217. Foundations of Behavioral Health Policy and Social Work Practice
3(3,0) Admission to MSW program This course helps students think critically about mental health services by analyzing the factors that influence global behavioral health policies.
Fall,Spring,Summer
HPA - School of Social Work

SOW 5235. Social Welfare Policies and Services
3(3,0) Study of societal responses to human needs; forces shaping social welfare systems; introduces frameworks for analyzing social policies and services
Fall
HPA - School of Social Work

SOW 5305. Social Work Practice I: Generalist Practice
3(3,0) Study of social work functions, knowledge, values, roles and skills; the use of a generalist model of practice.
Fall
HPA - School of Social Work

SOW 5306. Social Work Practice II: Intervention Approaches
3(3,0) Study of selected social work theories, strategies, and techniques for helping people and improving system responsiveness to human needs.
Spring
HPA - School of Social Work

SOW 5404. Social Work Research
3(3,0) Study of group research designs in social work; quantitative analyses; and related ethical issues.
Fall
HPA - School of Social Work

SOW 5538. Full-Time MSW Generalist Field Education and Seminar I
3(3,0) Admission to Master of Social Work program or C.I.; CR: SOW 5305. Field education for full-time MSW generalist students; includes seminar and supervised practice of social work in an agency for 200 clock hours. Graded S/U.
Fall
HPA - School of Social Work

SOW 5539. Full-Time MSW Generalist Field Education and Seminar II
3(3,0) PR: SOW 5538; CR: SOW 5306. Field education for full-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 200 clock hours. Graded S/U.
Spring
HPA - School of Social Work

SOW 5565. Part-Time MSW Generalist Field Education and Seminar I
2(2,0) PR: SOW 5305; CR SOW 5306. Field education for part-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 150 clock hours. Graded S/U.
Fall
HPA - School of Social Work

SOW 5566. Part-Time MSW Generalist Field Education and Seminar II
2(2,0) PR: SOW 5565; CR: SOW 5306. Field Education for part-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 150 clock hours. Graded S/U.
Spring
HPA - School of Social Work

SOW 5567. Part-Time MSW Generalist Field Education and Seminar III
2(2,0) PR: SOW 5566. Field Education for part-time Master of Social Work generalist students; includes seminar and supervised practice of social work in an agency for 100 clock hours. Graded S/U.
Summer
HPA - School of Social Work

SOW 5930. Generalist Field Integrative Seminar
VAR Admission to MSW program; CR: Generalist Field Education Field education seminar course for full-time or part-time MSW generalist students.
Fall,Spring,Summer
HPA - School of Social Work

SOW 5940. Generalist Field Education
VAR Admission to MSW program Field education for Master of Social Work generalist students; includes supervised practice of social work in an agency for 200 clock hours.
Fall,Spring,Summer
HPA - School of Social Work

SOW 6109. Violence Against Women: A Global Perspective
3(3,0) PR: Graduate standing or C.I. An introduction to the types of violence imposed on women around the world. Social, political and economic issues related to women and violence are reviewed.
Summer
HPA - School of Social Work

SOW 6123. Psychosocial Pathology
3(3,0) PR: Completion of all Master of Social Work core courses or advanced standing. Study of psychosocial dynamics of dysfunctional behavior in individuals.
Summer
HPA - School of Social Work

SOW 6155. Human Sexuality in Social Work Practice
3(3,0) PR: Admission to Master of Social Work program, Graduate Certificate in Gender Studies or C.I. Study of human sexuality with emphasis on assessment and intervention skills for social workers with clients experiencing problems involving sexual issues.
Occasional
HPA - School of Social Work

SOW 6246. Policy Analysis and Social Change
3(3,0) PR: Advanced standing in the Master of Social Work program. Study of urban problems, policies, and planning from the perspective of their impact on individuals and families.
Spring
HPA - School of Social Work

SOW 6324. Clinical Practice with Groups
3(3,0) PR: SOW 6123. Group work theories, interventions and techniques applied to persons with emotional, social and psychological problems.
Fall,Spring
HPA - School of Social Work

SOW 6348. Clinical Practice with Individuals
3(3,0) PR: SOW 6123. Behavioral, crisis, and psychosocial theories applied to persons with emotional, social, and psychological problems.
Fall
HPA - School of Social Work

SOW 6383. Social Work Administration
3(3,0) Admission to Master of Social Work program or C.I. Designed as a general introduction to the multi-faceted nature of social work administration in public and private non-profit settings.
Occasional
HPA - School of Social Work

SOW 6424. Theories for Evidence-Based Clinical Practice in Social Work
3(3,0) PR: Completion of all Master of Social Work core courses or advanced standing. Theoretical perspectives including: Cognitive; Cognitive Behavioral; Feminist Therapy; Psycho-dynamic Therapy; Motivational Interviewing; Rational Emotive Behavioral Therapy; Solution-focused Therapy; and Narrative Therapy.
Summer
HPA - School of Social Work

SOW 6433. Clinical Evaluation in Social Work Practice
3(3,0) SOW 5404 Students will learn to critically analyze and apply specific research designs and analytical methods for systematic evaluation of clinical interventions, services, and programs.
Fall,Spring,Summer
HPA - School of Social Work

SOW 6531. Full Time MSW Clinical Field Education and Seminar I
4(4,0) PR: SOW 6123 and SOW 6424. Field education for full-time Master of Social Work students; includes seminar and supervised practice of social work in an agency for 300 clock hours. Graded S/U.
Fall
HPA - School of Social Work

SOW 6536. Full Time MSW Clinical Field Education and Seminar II
4(4,0) PR: SOW 6531. Field education for full-time Master of Social Work clinical students; includes seminar and supervised practice of social work in an agency for 300 clock hours. Graded S/U.
Spring
HPA - School of Social Work

SOW 6561. Part-Time MSW Clinical Field Education and Seminar I
3(3,0) PR: SOW 5567; SOW 6123 and SOW 6424. Field education for part-time Master of Social Work students; includes seminar and supervised practice of social work in an agency for 225 clock hours. Graded S/U.
Fall
HPA - School of Social Work

SOW 6562. Part Time MSW Clinical Field Education and Seminar II
3(3,0) PR: SOW 6561. Field education for part time Master of Social Work clinical students; includes seminar and supervised practice of social work in an agency for 225 clock hours. Graded S/U.
Spring
HPA - School of Social Work

SOW 6563. Part-Time MSW Clinical Field Education and Seminar III
2(2,0) PR: SOW 6562. Field education for part-time MSW clinical students; includes seminar and supervised practice of social work in an agency for 150 clock hours. Graded S/U.
Summer
HPA - School of Social Work

SOW 6603. Social Work in Health Settings
3(3,0) Admission to Master of Social Work program or C.I. Study of social work roles, interventions, and issues related to helping clients in health care settings.
Occasional
HPA - School of Social Work

SOW 6604. Medications in Social Work Practice
3(3,0) PR: Admission to Master of Social Work program and SOW 6123, or C.I. The study of the effects that psychotropic medications can have within the counseling/helping relationship.
Occasional
HPA - School of Social Work

SOW 6608. Understanding and Managing Combat Related Behavioral and Mental Health Disorders
3(3,0) PR: SOW 5149. Advances students' knowledge about the unique nature of trauma, PTSD and other mental health disorders as they relate to combat-exposed soldiers, veterans, their families and other military experiences.
Spring
HPA - School of Social Work

SOW 6610. Clinical Practice with Military and Veteran Families or Groups
3(3,0) PR: SOW 5149. Theoretical/practical approaches to clinical practice with military families and groups. Examines the demands of military service on family/group dynamic, composition and related issues.
Spring
HPA - School of Social Work

SOW 6612. Clinical Practice with Families
3(3,0) PR: SOW 6123. Family-focused models of intervention applied to families in transition and to problems such as divorce, single parenting, and blended families.
Fall
HPA - School of Social Work

SOW 6635. Social Work Practice in Schools
3(3,0) PR: Admission to MSW program or Social Work Graduate Certificate or C.I. Enhance clinical knowledge and skills that are essential to effective school based practice with students, teachers, families, schools and communities.
Summer
HPA - School of Social Work

SOW 6644. Interventions with Older Adults and Their Families
3(3,0) Admission to Master of Social Work program or C.I. Study of concepts, skills, models and theories for intervening with the elderly. Special attention is given to minority populations.
Occasional
HPA - School of Social Work

SOW 6652. Child Welfare Services
3(3,0) PR: Admission to Master of Social Work program or C.I. Provides a framework of knowledge, values and skills necessary to work with maltreated children and their families. It also serves to introduce students to the field of Child Welfare (CW).
Spring
HPA - School of Social Work

SOW 6655. Child Abuse: Treatment and Prevention
3(3,0) PR: Admission to MSW degree or SW or Criminal Justice Certificate program. Study of various forms of child abuse, the social worker's role and interventions with victims of child abuse and their family members.
Occasional
HPA - School of Social Work

SOW 6670. Clinical Social Work Practice with LGBTQ+
3(3,0) Admission to Master of Social Work and SOW 6123 or C.I. Focus on Social Work resources, social policy and clinical assessment, diagnosis and therapeutic interventions of LGBTQ+ individuals, families, groups and communities.
Occasional
HPA - School of Social Work

SOW 6712. Clinical Social Work Practice with Substance Addictions
3(3,0) Admission to Master of Social Work program, Juvenile Justice certificate, or Corrections Leadership certificate, or C.I. The most common substance addictions are identified along with current evidence-based practice strategies.
Occasional
HPA - School of Social Work

SOW 6713. Prevention and Treatment of Adolescent Substance Use and Misuse
3(3,0) PR: Admission to Master of Social Work program or C.I. Clinical application and analysis of prevention, intervention, treatment, recovery, relapse issues and public policy regarding adolescents with substance use addictions.
Occasional
HPA - School of Social Work

SOW 6726. Social Work Practice with Children from Birth to Age Five and their Families
3(3,0) PR: Graduate standing or C.I. Social Work practice and treatment of children from birth to five years of age and their families.
Spring
HPA - School of Social Work

SOW 6727. Core Concepts of Child and Adolescent Trauma
3(3,0) PR: Graduate standing or C.I. Trauma informed concepts applied to practice with children and adolescents.
Fall,Spring,Summer
HPA - School of Social Work

SOW 6735. Documentation Skills for Helping Professionals
3(3,0) PR: MSW students, C.I. Study of documentation skills and record keeping for helping professionals.
Odd Spring,Even Summer
HPA - School of Social Work

SOW 6756. Forensic Social Work
3(3,0) PR: Admission to MSW program or Social Work Certificate. Course studies theories and practice of forensic social work focusing on roles, ethics, skills and functions.
Occasional
HPA - School of Social Work

SOW 6806. Behavioral Health Skills for Clinical Social Workers
3(3,0) Admission to Master of Social Work and SOW 6123. Provides comprehensive knowledge and skills for providing behavioral health interventions in medical and behavioral health settings.
Odd Summer
HPA - School of Social Work

SOW 6846. Spirituality in Clinical Social Work Practice
3(3,0) PR: Admission to MSW or Social Work Certificate program. Faith development theory, study of spirituality in various settings and development of strategies for use in practice designed to heighten sensitivity to spiritual dimensions of life.
Occasional
HPA - School of Social Work

SOW 6914. Integrative Research Project in Clinical Practice
3(3,0) PR: Advanced standing in MSW program. Student-selected research on an issue of clinical practice in urban settings.
Odd Spring
HPA - School of Social Work

SOW 6931. Clinical Field Integrative Seminar
VAR Admission to MSW program; CR: Clinical Field Education Field education seminar course for full-time or part-time MSW clinical students.
Fall,Spring,Summer
HPA - School of Social Work

SOW 6940. Clinical Field Education
VAR Admission to MSW program Field education for Master of Social Work students; includes supervised practice of social work in an agency for 300 clock hours.
Fall,Spring,Summer
HPA - School of Social Work

SOW 7397. Social Entrepreneurship in Public and Social Sectors
3(3,0) PR: Admission to Public Affairs Ph.D. or C.I. This advanced seminar in social entrepreneurship will teach design, tools and methods used in social entrepreneurship research and practice.
Odd Spring
HPA - School of Social Work

SOW 7492. Theory Building in Social Work and Applied Social Science Disciplines
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. This advanced seminar in theory building will teach design, tools and methods used in social theory building.
Odd Fall
HPA - School of Social Work

SOW 7494. Conducting Evidence-based Practice Research in Social Work and Allied Fields
3(3,0) PR: Admission to Public Affairs Ph.D. program or C.I. This is an advanced seminar in conducting evidence-based practice research. Analytical design and methods used in such research will be applied.
Even Spring
HPA - School of Social Work

SPA 5554. Counseling in Communicative Disorders
3(3,0) PR: Senior Status or C.I. Interviewing and counseling for individuals with communication disorders and their families.
Spring
HPA - Department of Communication Sciences and Disorders

SPA 6057. Methods in School Speech-Language Pathology
3(3,0) PR: Admission to M.A. in Communication Sciences and Disorders or C.I. The study of essential concepts, methods and procedures used in school-based, speech-language pathology.
Occasional
HPA - Department of Communication Sciences and Disorders

SPA 6204. Articulation/Phonological Disorders
3(3,0) PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Advanced theory, diagnosis, and treatment of articulation/phonological disorders including developmental apraxia of speech, dysarthria, and cleft palate; communicative differences vs. disorders emphasized.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6211C. Voice Disorders
4(3,1) PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Study of the etiology, evaluation, and management of voice disorders in children and adults, with laboratory demonstration and participation.
Fall,Spring
HPA - Department of Communication Sciences and Disorders

SPA 6225C. Fluency Disorders
4(3,1) PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Study of the theories, etiology, symptomatology and development of fluency disorders as well as assessment, differential diagnosis and management of disorders of fluency in children and adults with fluency failures.
Fall,Spring
HPA - Department of Communication Sciences and Disorders

SPA 6236. Motor Speech Disorders in Adults and Children
3(3,0) PR: Admission to M.A. in Communication Sciences and Disorders and SPA 6204 or C.I. Evaluation and treatment of dysarthrias, apraxias, and other motor speech disorders in adults and children associated with neurological problems, brain injury and systemic disease.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6245. Communication Disorders in Cleft Palate-Velopharyngeal Dysfunction
3(3,0) PR: SPA 6204, SPA 6211C, or C.I. Introduction to the management of communication and feeding disorders related to cleft palate and/or velopharyngeal dysfunction.
Fall
HPA - Department of Communication Sciences and Disorders

SPA 6327. Aural Habilitation/Rehabilitation
3(3,0) PR: Admission to the Communication Sciences and Disorders master's program or C.I. Principles and procedures involved in speech and language acquisition, management, utilization of residual hearing, speech reading, and the use of hearing aids.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6401. Language Disorders in Infants and Toddlers
3(3,0) PR: SPA 6496. Assessment and intervention of communication disorders in infants and toddlers incorporating transdisciplinary and family-centered models.
Fall
HPA - Department of Communication Sciences and Disorders

SPA 6410. Aphasia and Related Disorders
3(3,0) PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Evaluation and treatment of language disorders in adults with damage to the central nervous system, with an emphasis on etiology and differential diagnosis.
Fall,Spring
HPA - Department of Communication Sciences and Disorders

SPA 6417. Cognitive/Communicative Disorders
3(3,0) PR: SPA 6410 or C.I. Evaluation and treatment of right hemisphere dysfunctions, traumatic brain injury, and dementias, with special emphasis on memory, cognition, pragmatics and other issues affecting functional communication.
Spring
HPA - Department of Communication Sciences and Disorders

SPA 6432. Issues in Autism
3(3,0) PR: SPA 6402 or C.I. Study of the diagnosis, assessment and intervention strategies for autism and related disorders.
Occasional
HPA - Department of Communication Sciences and Disorders

SPA 6437. Communication Foundations and Assistive/Instruct Technology for Communication
3(3,0) PR: Graduate standing or C.I. Classroom approaches involving assistive/instructional technology used to meet communication needs of students with autism spectrum disorders and other communicative disorders.
Occasional
HPA - Department of Communication Sciences and Disorders

SPA 6451. Theory and Clinical Aspects Cognitive-Comm Disorders in Traumatic Brain Injury
3(3,0) PR: Admission to M.A. in Communication Sciences or C.I. Impact of traumatic brain injury on neurological, cognitive-communication and social performance of school-aged and post-secondary students, including identification of co-morbid conditions, recovery patterns and interviewing.
Occasional
HPA - Department of Communication Sciences and Disorders

SPA 6453. Management of Cognitive-Communication Disorders in Traumatic Brain Injury
3(3,0) PR: SPA 6452 or C.I. Management of cognitive-communication disorders in traumatic brain injury of school-aged and post-secondary students with emphasis on attention, perceptual skills, executive function, learning and social interaction.
Occasional
HPA - Department of Communication Sciences and Disorders

SPA 6474. Assessment and Management of Culturally and Linguistically Diverse Populations
3(3,0) PR: Admission to MA in Communication Sciences or C.I. Role of native and second languages, dialects and culture in the assessment and management of individuals from culturally and linguistically diverse backgrounds.
Fall,Spring
HPA - Department of Communication Sciences and Disorders

SPA 6496. Language Disorders in Children and Adolescents
6(6,0) PR: Admission to M.A. in Communication Sciences and Disorders or C.I. The nature, assessment and management of spoken and written language disorders in children and adolescents.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6503. Foundations of Clinical Practice Level II
1(1,0) PR: 6551 or C.I.; CR 6503L. Seminar preparing graduate clinicians for practicum with pediatric/adolescents across varied communication disorders: clinical decision-making, generalization, transfer, maintenance, service delivery, ethics, public policy and professional issues.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6503L. Foundations of Clinical Practice: Level II Application
1(0,2) PR: SPA 6551 or C.I.; CR SPA 6503. Supervised practicum across a variety of communication disorders within the pediatric and adolescent population. May be repeated for credit. Minimum of 20 clock hours required.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6551. Foundations of Clinical Practice: Level I
1(1,0) PR: Admission to Communication Sciences and Disorders master's program or C.I. Strategic application of knowledge in normal communication sciences and development to clinical practice through creating, testing and developing hypotheses about the nature of communication disorders.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6553. Differential Diagnosis In Speech and Language
3(3,0) PR: SPA 6943C; CR: SPA 6553L. Procedures for diagnosing speech and language disorders in children and adults, with emphasis on interviewing, test administration and interpretation, and report writing.
Fall
HPA - Department of Communication Sciences and Disorders

SPA 6553L. Clinical Practice in Differential Diagnosis in Speech and Language Pathology
1(1,1) PR: SPA 6503, SPA 6503L or C.I. Clinical application of diagnostic process and assessment procedures for a variety of communication disorders across the life span. May be repeated for credit.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6559. Augmentative and Alternative Communication
3(3,0) PR: Admission to M.A. in Communication Sciences and Disorders or C.I. The total integrated network of techniques, aids, strategies, and skills individuals use to supplement or replace inadequate natural speaking ability.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6565. Feeding and Swallowing Disorders
3(3,0) PR: Admission to M.A. in communication Sciences and Disorders and SPA 6211C or C.I. Evaluation and management of feeding and swallowing disorders in children and adults.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6569. Management of Upper Airway and Aerodigestive Disorders
3(3,0) PR: SPA 6211C; SPA 6565. Overview of the presentation, diagnosis, management and potential complications of common upper airway and aerodigestive disorders in adults and children.
Occasional
HPA - Department of Communication Sciences and Disorders

SPA 6805. Research in Communicative Disorders
3(3,0) PR: Admission to M.A. in Communication Sciences and Disorders and STA 2014C or STA 2023 or equivalent or C.I. Introduction to empirical research in communicative disorders, with emphasis on hypothesis testing, research design, data analysis, and interpretation of results.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6820. Leadership Project in School Speech-Language Pathology
3(3,0) PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Development and completion of a clinical or research project pertaining to school-based practice.
Occasional
HPA - Department of Communication Sciences and Disorders

SPA 6843. Severe Language-Based Reading and Writing Disabilities
3(3,0) PR: Admission to M.A. in Communication Sciences and Disorders or C.I. Development, assessment , and instruction of reading, writing, and spelling, with emphasis on phonemic awareness, decoding, text comprehension, spelling, and written expression.
Spring
HPA - Department of Communication Sciences and Disorders

SPA 6942. Foundations of Clinical Practice: Level III
1(1,0) PR: SPA 6503, SPA 6503L or C.I.; CR SPA 6942L. Seminar preparing graduate clinicians for practicum with adults who have acquired disorders: clinical decision-making, generalization, transfer, maintenance, service delivery models, ethics, public policy and reimbursement.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6942L. Foundations of Clinical Practice: Level III Application
1(0,2) PR: SPA 6503, SPA 6503L or C.I.; CR: SPA 6942. Supervised practicum including acquired disorders with the adult population. May be repeated for credit. Minimum of 20 clock hours required.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 6943C. Clinical Practice Level I
3(1,4) PR: SPA 6942, SPA 6942L. Clinical practicum for the demonstration of knowledge and skill application in the diagnosis, treatment and management of persons with complex communication disorders across the lifespan.
Fall,Spring,Summer
HPA - Department of Communication Sciences and Disorders

SPA 7490. Advanced Studies in Language Disorders
3(3,0) PR: Doctoral standing or C.I. Evaluation and management of language impairment and associated disorders in preschool and school-age children.
Occasional
HPA - Department of Communication Sciences and Disorders

SPA 7491. Advanced Studies in Language Development
3(3,0) PR: Doctoral standing or C.I. Linguistic theories and their implications for language learning in children and youth.
Fall
HPA - Department of Communication Sciences and Disorders

SPA 7492. Evidence-Based Research and Practice in Speech Language Pathology
3(3,0) PR: Doctoral standing or C.I. Systematic review of evidence-based research, with emphasis on concepts, methods and procedures from problem formulation to consumer reporting.
Fall
HPA - Department of Communication Sciences and Disorders

SPA 7493. Advanced Studies in School Speech-Language Pathology
3(3,0) PR: Doctoral standing or C.I.
Theoretical foundations, advanced program design, team-based practice and leadership practices in school
speech-language pathology.
Spring
HPA - Department of Communication Sciences and Disorders

SPA 7494. Doctoral Seminar 1: Spoken & Written Language Disorders Preschool and Early Elem
3(3,0) PR: Doctoral standing or C.I.
Research, theory and practice on spoken and written language disorders in preschool through early elementary school.
Fall
HPA - Department of Communication Sciences and Disorders

SPA 7495. Doctoral Seminar II: Spoken and Written Language Disorders
3(3,0) PR: Doctoral standing or C.I.
Research, theory and practice on spoken and written language disorders in upper elementary, secondary and
post-secondary students.
Spring
HPA - Department of Communication Sciences and Disorders

SPA 7945. Internship in Clinical Supervision
2(2,0) PR: Doctoral standing or C.I.
Supervised experience in observing, supervising and evaluating internship performance in a clinical or school practicum in communication sciences and disorders.
Occasional
HPA - Department of Communication Sciences and Disorders

SPA 7947. Internship in College Instruction
2(2,0) PR: Doctoral standing or C.I.
Supervised experience in the design, delivery and evaluation of a college course in communication sciences and disorders.

HPA - Department of Communication Sciences and Disorders

SPA 7948. Internship in Professional Development
2(0,2) PR: Admission to PhD in Education Communication Sciences and Disorders Track. Supervised experience in the design, delivery and evaluation of professional development for educators in the area of communication sciences and disorders.
Fall
HPA - Department of Communication Sciences and Disorders

SPB 6406. Sport Law
3(3,0) PR: CBA master's program of study foundation core and admission to the Sport Business Management program. Legal issues applicable to a sports context, developing familiarity with the legal terminology and broad understanding of key concepts in tort, contract, constitutional and common law. Employment, labor, antitrust, and agency law are also key components of this course.
Fall
BA - Dean's Office - BA

SPB 6506. Moral and Ethical Issues in Sport
1.5(1.5,0) PR: CBA master's program of study foundation core, and acceptance into the Sport Business Management program. Broad understanding of the moral and ethical issues in sport including a special focus on the responsibility of governing bodies and decision-makers in sport including faculty, coaches, athletic directors, presidents, league commissioners, the NCAA, and the media. Issues will also include equity for women and people of color, academic abuses of student-athletes at the high school and college level, illegal recruitment of student-athletes, use of performance enhancing drugs, agents, and gambling.
Fall
BA - Dean's Office - BA

SPB 6606. Diversity and Social Issues in Sport Business Management
1.5(1.5,0) PR: CBA master's foundation core and admission to the Master of Sport Business Management. The impact of diversity and social issues in sport as business imperative to achieve social responsiveness and financial performance in professional, collegiate, and Olympic sport.
Occasional
BA - Dean's Office - BA

SPB 6607. Service Learning in Sport
1(1,0) PR: Admission to Master of Sport Business Management. Designed to help students understand how the power of sport can affect meaningful social change through project-based service-learning course.
Occasional
BA - Dean's Office - BA

SPB 6608. The Sport Industries in the US: Challenges and Opportunities
1.5(1.5,0) PR: Admitted to Master of Sport Business Management Program. Examines the factors that have created the American Sport Industry and those factors that sustain and insure its prosperity and survival.
Summer
BA - Dean's Office - BA

SPB 6706. Sport Analytics
3(3,0) Completion of foundation core modules and admission to Master of Sport Business Management program. Analysis and application of statistics, operations research, and economic theory to current business challenges and opportunities within the sport business industry.
Summer
BA - Dean's Office - BA

SPB 6715C. Professional Selling in Sport
1.5(1.5,1) PR: CBA master's program of study foundation core and admission to the Sport Business Management program. This course offers a comprehensive understanding of the sales process in the sport area. An overview of sales theory and its applications in sports are examined.
Summer
BA - Dean's Office - BA

SPB 6716C. Strategic Sport Marketing
3(3,1) PR: CBA Masters Program of Study Foundation Core, and admission to the Sport Business Management program. This course offers a comprehensive understanding of the marketing of sport and marketing through sport. Theoretical and practical applications of sport marketing are examined.
Occasional
BA - Dean's Office - BA

SPB 6725. Leadership in Sport
1.5(1.5,0) PR: CBA master's program of study foundation core, and admission to the Sport Business Management program. Theory, research, and practice of leadership in sports organizations. Special attention is given to contemporary leadership issues with leaders of sports industry leading many of the discussions. Examines the multiple roles that leaders can help sports organizations play in serving the community, including both traditional and creative philanthropy and case studies of model community service programs of sports teams, leagues, and college athletics departments. Lab Required.
Spring
BA - Dean's Office - BA

SPB 6735. The Global Environment of Sport
3(3,0) PR: CBA master's program of study foundation core, and acceptance into the Sport Business Management program. With the continuing development of sport as a global enterprise comes the need to understand the global environment. The focus of this course is on the international business environment and how sport may best operate within that environment.
Occasional
BA - Dean's Office - BA

SPB 6806. Business of Sport Media
3(3,0) PR: CBA master's program of study foundation core, and acceptance into the Sport Business Management program. History of how media has evolved from radio, network television and magazines into the multi-dimensional world of regional and national cable, the internet, the networks, huge rights fees and other new elements. The way sports media provides so much of the revenue for sports as an entertainment industry has made it the anchor for the sports industry.
Odd Spring
BA - Dean's Office - BA

SPC 6219. Modern Communication Theory
3(3,0) Comparative analysis of theories and models of human communication, behavior systems, encoding and decoding processes, interaction variables, and social context.
Spring
COS - Nicholson School of Communication

SPC 6442. Small Group Communication
3(3,0) A study of communication and its effect on small group behavior.
Occasional
COS - Nicholson School of Communication

SPM 5155. Introduction to Sports Administration
3(3,0) PR: C.I. This course will provide an overview of the sports industry. Fundamental leadership administration and research theories as well as information on current issues are emphasized.
Occasional
ED - Department of Educational and Human Sciences

SPM 5308. Marketing and Promoting Sports and Fitness Programs
3(3,0) PR: C.I. Introduces students to all aspects of sports marketing including planning, organizing, marketing, evaluating, and conducting special and sport events.
Occasional
ED - Department of Educational and Human Sciences

SPM 5506. Financial Issues in Sports and Fitness
3(3,0) C.I. Examines basic financial concepts including understanding annual reports, developing budgets, financial analysis, and examining methods for increasing revenue and controlling cost in the sport industry.
Occasional
ED - Department of Child, Family and Community Sciences

SPM 6106. Planning and Operating Facilities for Sports and Fitness Programs
3(3,0) PR: C.I. This course will provide students with an understanding of the factors involved in planning, designing, equipping, and managing of sport facilities and event logistics.
Occasional
ED - Department of Educational and Human Sciences

SPM 6108. Event & Facility Management in Sport Business
1.5(1.5,0) PR: CBA master's program of study foundation core and admission to the Sport Business Management program. This course takes a comprehensive look into the discipline of public assembly facility management and event planning. Sports activities are held in large facilities that create unique opportunities for the manager.
Summer
BA - Dean's Office - BA

SPM 6158. Leadership and Management in Sports and Fitness Programs
3(3,0) C.I. Examines leadership, management fundamentals, professional knowledge, sports personnel and evaluation systems, leadership ethics, and communication skills required of leaders in the sports industry.
Occasional
ED - Department of Child, Family and Community Sciences

SPM 6726. Legal Issues in Sports and Fitness Programs
3(3,0) PR: C.I. This course examines major legal issues in sports leadership. Emphasis is on providing legally sound programs that reduce the risk of litigation.
Occasional
ED - Department of Educational and Human Sciences

SPN 5502. Hispanic Culture of the United States
3(3,0) PR: Graduate status or senior standing or C.I. An analysis of the Hispanic culture of the United States, past and present.
Occasional
CAH - Department of Modern Languages and Literatures

SPN 5505. Spanish Peninsular Culture and Civilization
3(3,0) PR: Graduate status or senior standing or C.I. An analysis of the salient characteristics of Spanish culture and civilization.
Occasional
CAH - Department of Modern Languages and Literatures

SPN 5506. Spanish American Culture and Civilization
3(3,0) PR: Graduate status or senior standing or C.I. An analysis of the salient characteristics of Spanish American culture and civilization.
Occasional
CAH - Department of Modern Languages and Literatures

SPN 5705. Introduction to Spanish Linguistics
3(3,0) PR: Graduate status or senior standing or C.I. An introduction to main concepts and methods of analyses focusing on Spanish morphology, syntax, semantics, and phonology as well as dialectology and sociolinguistics.
Odd Fall
CAH - Department of Modern Languages and Literatures

SPN 5825. Spanish Dialectology
3(3,0) PR: Graduate status or senior standing or C.I. This course is a survey of the diversity found within the Spanish language with respect to phonological constraints, morphosyntax, second language influences, and historical development.
Occasional
CAH - Department of Modern Languages and Literatures

SPN 5845. History of the Spanish Language
3(3,0) PR: Graduate status or senior standing or C.I. An overview of linguistic characteristics of Latin and its evolution into Spanish with historical development of phonetic, morphological, and syntactic properties.
Occasional
CAH - Department of Modern Languages and Literatures

SPN 5920. AP Spanish Language
3(3,0) Graduate status or senior standing or C.I. Participants will enhance their knowledge of the language and culture of Spanish-speaking peoples and develop further proficiency in listening, comprehension, speaking, reading, and writing.
Occasional
CAH - Department of Modern Languages and Literatures

SPN 6805. Spanish Morphosyntax
3(3,0) A study of Spanish morphology and syntax from different perspectives.
Occasional
CAH - Department of Modern Languages and Literatures

SPN 6940. Teaching Methods for the Spanish Classroom
3(3,0) PR: Graduate standing or C.I. Practical training for all GTA's who will be involved in teaching lower division Spanish classes. Graded S/U.
Occasional
CAH - Department of Modern Languages and Literatures

SPS 5177. Enhancing Individual and Student IQ
3(3,0) PR: Graduate standing or C.I. Students will understand IQ malleability and methods of enhancing IQ. Students will analyze acquisition of knowledge gained from methods of scientific inquiry regarding individual differences.
Even Spring,Even Summer
ED - Department of Child, Family and Community Sciences

SPS 5605. Building and Improving Relationship and Emotional Intelligence
3(3,0) PR: Graduate standing or C.I. Students will learn to develop and improve relational and emotional intelligence and demonstrate an understanding of social emotional learning and how it enhances psychosocial wellbeing.
Odd Spring,Odd Summer
ED - Department of Child, Family and Community Sciences

SPS 6125. Preschool Psychoeducational Assessment
3(3,0) PR: Graduate standing and C.I. Analysis of test theory and practice in administration, scoring, and interpretation of instruments assessing cognitive, visual-motor ability and adaptive behavior with preschool children.
Spring
ED - Department of Child, Family and Community Sciences

SPS 6175. Cultural Diversity and Nonbiased Assessment
3(3,0) An investigation of some of the major multicultural issues with emphasis on administration, scoring, and interpretation of instruments related to this population.
Occasional
ED - Department of Child, Family and Community Sciences

SPS 6191. Individual Psychoeducational Diagnosis I
4(4,0) PR: Graduate standing and C.I. CR: SPS 6946L. Measurement of students' achievement and cognitive functioning. Administration, scoring, and interpretation of contemporary iterations of achievement and processing measures used in school psychology.
Spring
ED - Department of Child, Family and Community Sciences

SPS 6192. Individual Psychoeducational Diagnosis II
4(4,0) PR: Graduate admission and C.I. CR: SPS 6946L. Measurement of students' intellectual and cognitive functioning. Administration, scoring, and interpretation of contemporary iterations of IQ measures used in school psychology.
Fall
ED - Department of Child, Family and Community Sciences

SPS 6194. Assessment of Special Needs
3(3,0) PR: SPS 6191, SPS 6192. Measurement of social, behavioral, and emotional functioning in children and adolescents.
Occasional
ED - Department of Child, Family and Community Sciences

SPS 6206. Psychoeducational Interventions
3(3,0) PR: Graduate admission and C.I. This course will enable school psychology students to link psychoeducational assessment results to systematic, evidence-based psychoeducational interventions to improve student functioning.
Spring
ED - Department of Child, Family and Community Sciences

SPS 6225. Behavioral and Observational Analysis of Classroom Interactions in Schools
3(3,0) PR: Graduate admission. An intensive review of the principles and procedures of applied behavioral and observational analysis and assessment as they relate to changing behavior in schools.
Summer
ED - Department of Child, Family and Community Sciences

SPS 6402. Applied Prevention & Intervention in Schools I
3(3,0) C.I. Students will understand and apply behavioral prevention and intervention strategies in school and school-related settings.
Fall
ED - Department of Child, Family and Community Sciences

SPS 6403. Applied Prevention & Intervention in Schools II
3(3,0) Graduate standing and C.I. Students will understand and apply academic prevention and intervention strategies in school and school-related settings.
Fall,Spring
ED - Department of Child, Family and Community Sciences

SPS 6601. Introduction to Psychological Services in Schools
3(3,1) PR: Graduate admission and C.I. A course presenting an overview of the philosophy, organization, programs, and operation of school psychological services.
Fall
ED - Department of Child, Family and Community Sciences

SPS 6606. Consultation in School Psychology
3(3,0) PR: Graduate standing and C.I. School Psychology theories and models of school consultation and clinical practice in the consultative role.
Summer
ED - Department of Child, Family and Community Sciences

SPS 6608. Seminar in School Psychology
3(3,0) PR: C.I. Diagnostic, instructional, and prescriptive intervention techniques.
Spring
ED - Department of Child, Family and Community Sciences

SPS 6700. Advanced Psychoeducation and Data-Based Decision Making
3(3,0) PR: Graduate standing and C.I. Principles of advanced psychoeducation for teaching, response to intervention, and data-based decision making in schools.
Fall
ED - Department of Child, Family and Community Sciences

SPS 6703. Child and Adolescent Deviant Behavior and Treatment
3(3,0) PR: Graduate admission and C.I. Behavior disorders in school-age children and adolescents as classified in current terminology, and a review of treatment options such as therapy and medication.
Summer
ED - Department of Child, Family and Community Sciences

SPS 6801. Developmental Bases of Diverse Behaviors
3(3,0) PR: Graduate admission and C.I. The major social and educational policy concerns posed by developmental and cultural diversity in our society, with implications for teaching, learning and intervention.
Spring
ED - Department of Child, Family and Community Sciences

SPS 6815. Legal and Ethical Issues in Professional School Counseling
3(3,0) PR: MHS 5005 and MHS 6400. Ethical and legal standards, their evolution, and application specific to professional school counseling will be presented in the form of case studies and ethical dilemmas.
Summer
ED - Department of Child, Family and Community Sciences

SPS 6931. Ethical and Legal Issues in School Psychological Services
3(3,0) PR: Graduate standing and C.I. Introduction to ethical codes, professional standards, ethical-legal decision-making models and case studies impacting the delivery of school psychological services.
Summer
ED - Department of Child, Family and Community Sciences

SPS 6946L. Practicum in School Psychology
3(0,3) PR: Graduate admission and C.I. Provides each student with an orientation to public schools and experiences which broadly sample the spectrum of psychoeducational assessment and interventions for practicing school psychologists. Graded S/U. May be used in the degree program a maximum of 2 times.

ED - Department of Child, Family and Community Sciences

SPS 6948. School Psychology Internship
6(0,6) PR: Graduate standing and C.I. Supervised placement in school setting. Graded S/U. May be used in the degree program a maximum of 6 times.
Fall,Spring,Summer
ED - Department of Child, Family and Community Sciences

SPW 5741. Contemporary Spanish American Southern Cone Literature
3(3,0) PR: Enrolled in Spanish M.A. Program or C.I. Regional as well as international literary cultures and disciplines in southern cone literature.

CAH - Department of Modern Languages and Literatures

SPW 6216. Spanish Golden Age Prose and Poetry
3(3,0) PR: Admission into Spanish M.A. program. Outstanding authors of the Spanish Renaissance and Spanish Baroque periods.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6217. Spanish American Prose I
3(3,0) Graduate standing or C.I. A study of the principal characteristics of Spanish American prose from Colonial times to post-independence.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6218. Spanish American Prose II
3(3,0) A study of the principal characteristics of Spanish American prose from modernism to the present.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6269. Nineteenth Century Spanish Novel
3(3,0) A study of the major writers and literary movements of the 19th century with emphasis on the novels of Valera, Perez Galdos, Clarin and Pardo Bazan.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6306. Spanish American Drama
3(3,0) PR: Admission into Spanish M.A. program. Critically recognized Spanish American Theater texts and pre-Hispanic theatrical works.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6315. Golden Age Drama
3(3,0) An analysis of the meaning and artistic values of selected theatrical works of the Spanish Golden Age.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6356. Spanish American Poetry
3(3,0) Graduate standing or C.I. A study of the different movements and their contribution to Spanish American poetry.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6358. Modernismo
3(3,0) Admission to Spanish M.A. program. The first Spanish American literary movement (approximately 1880-1910) that impacted the 20th century Spanish language and culture.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6405. Medieval Spanish Literature
3(3,0) An intensive study of the major genres of the period. Emphasis on selected works by major writers.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6485. Contemporary Peninsular Literature
3(3,0) A study of the major writers and literary movements from the Generation of 1927 to the present.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6725. The Generation of 1898
3(3,0) An analysis of the major works of writers of the Generation of 1898 such as Ganivet, Unamuno, Baroja, Azorin, and Machado.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6775. Spanish Caribbean Prose
3(3,0) PR: SPW 6919. Spanish Caribbean writers from Colonial times to the present.
Fall
CAH - Department of Modern Languages and Literatures

SPW 6825. Seminar Series
3(3,0) PR: Graduate Standing or C.I. A seminar course that focuses on a single author, a geographical area or a specific topic within a period or literary movement from Spain, Latin American or Hispanics in the U.S. May be repeated for credit.
Occasional
CAH - Department of Modern Languages and Literatures

SPW 6919. Advanced Spanish Graduate Research
3(3,0) PR: Graduate student in Spanish MA program. Introduce historical and literary criticism at the graduate level. Teach methods for independent study and provide students with tools needed for research in Spanish linguistics, literary criticism and culture.
Occasional
CAH - Department of Modern Languages and Literatures

SSE 5391. Global Education: Theory and Practice
3(3,0) PR: Graduate standing or C.I. Examines the theoretical underpinnings of teaching about the world along with a variety of theoretically grounded teaching strategies for engaging students in global education.
Spring
ED - School of Teaching, Learning, and Leadership

SSE 5776. Democracy and Education
3(3,0) PR: Graduate standing or C.I. Explores the intersection of theory and practice with regard to promoting democratic life in schools. Will examine competing theories of democracy and education, investigate problem areas in schools related to democracy, and consider examples of practice.
Fall
ED - School of Teaching, Learning, and Leadership

SSE 5790. Inquiry and Instructional Analysis in Social Science Education
3(3,0) PR: EDG 6415 or admission to Teacher Leadership MEd program or Initial Teacher Professional Preparation certificate. Study of instructional programs in social science education and related scholarship; development of an inquiry about the intersection of theory and practice in social science teaching.
Summer
ED - School of Teaching, Learning, and Leadership

SSE 6115. Methods in Elementary School Social Science
3(3,0) PR: Graduate standing or C.I. Study of instructional programs in social sciences; objectives; materials; techniques; current research; and their application in elementary school setting.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

SSE 6348. Foundations and Fundamentals of Teaching History in the K-12 Classroom
3(3,0) PR: Graduate standing or C.I. This course examines empirical research and pedagogical approaches related to the teaching of history in the K-12 classroom environment.
Odd Fall
ED - School of Teaching, Learning, and Leadership

SSE 6387. Teaching with Film
3(3,0) PR: Graduate standing or C.I. Selected strategies, trends, methods, materials, and legal issues for effectively incorporating film in the K-12 classroom. Selected topics include media literacy, film research, and making movies appropriate to educational settings.
Spring
ED - School of Teaching, Learning, and Leadership

SSE 6388. Digital History in the K-12 Classroom
3(3,0) PR: Graduate standing or C.I. This course looks at the concept of digital history and how this pedagogical approach can and should be applied in the K-12 social studies classroom environment.
Fall
ED - School of Teaching, Learning, and Leadership

SSE 6396. Teaching with Primary Sources in the History Classroom
3(3,0) Graduate standing or C.I. This course focuses on the creation, teaching, and evaluation of history-specific, content-informed and effective instructional practices that integrate primary sources.

ED - School of Teaching, Learning, and Leadership

SSE 6617. Trends in Elementary School Social Studies Education
3(3,0) Basic Teacher Certificate or C.I. Historical development and current trends, strategies for inquiry instruction, intellectual, social, and personal dimensions of social studies.
Occasional
ED - School of Teaching, Learning, and Leadership

SSE 6636. Contemporary Social Science Education
3(3,0) PR: Basic Teacher Certificate of C.I. A survey of recent developments and contemporary programs in all areas of the social sciences.
Occasional
ED - School of Teaching, Learning, and Leadership

SSE 7700. Critical Issues in Social Studies Teacher Education
3(3,0) PR: Doctoral standing. An examination of the relevant literature surrounding the research and practice of social studies teacher education. The course examines the major themes, ideas, perspectives, and programs.
Even Fall
ED - School of Teaching, Learning, and Leadership

SSE 7740. History of Social Studies Education
3(3,0) PR: Doctoral standing. Major themes, ideas, and personalities in the historical development of curriculum and instruction in social studies in the United States since 1880.
Odd Fall
ED - School of Teaching, Learning, and Leadership

SSE 7796. Research in Social Science Education Seminar
3(3,0) PR: Doctoral standing. Analysis and evaluation of scholarly research in social studies education.
Odd Spring
ED - School of Teaching, Learning, and Leadership

SSE 7797. Content and Program Analysis in Social Science Education
3(3,0) PR: Doctoral standing. Analysis of social science instructional programs including development of content, materials, processes, and assessment procedures in light of current research and practice.
Even Fall
ED - School of Teaching, Learning, and Leadership

SSE 7947. Internship in Social Science Education
3(3,0) PR: Doctoral standing. Student teaching in a classroom under supervision of a certified classroom teacher. May be used in the degree program a maximum of 3 times.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

STA 5104. Advanced Computer Processing of Statistical Data
3(3,0) PR: STA 4163 and knowledge of a programming language, graduate status or senior standing, or C.I. Use of SAS and other statistical software packages; data manipulation; graphical data presentation; data analysis; creating analytical reports.
Fall
COS - Department of Statistics

STA 5176. Introduction to Biostatistics
3(3,0) STA 4163 or STA 4173, graduate status or senior standing, or C.I. Fixed-effects model, random-effects model,repeated measures design, logistic regression, survival analysis, Kaplan-Meier estimates, proportional hazards model.
Occasional
COS - Department of Statistics

STA 5205. Experimental Design
3(3,0) PR: STA 4164, STA 5206 or ESI 5219, and graduate status or senior standing, or C.I. Construction and analysis of designs for experimental investigations. Blocking, randomization, replication; Incomplete block designs; factorial and fractional designs; design resolution.
Spring
COS - Department of Statistics

STA 5206. Statistical Analysis
3(3,0) PR: STA 2023; not open to students who have completed STA 4164. Graduate status or senior standing or C.I. Data analysis; statistical models; estimation; tests or hypotheses; analysis of variance, covariance, and multiple comparisons; regression and nonparametric methods.
Fall
COS - Department of Statistics

STA 5505. Categorical Data Methods
3(3,0) PR: STA 4163 or STA 5206, and graduate status or senior standing or C.I. Considers discrete probability distributions, contingency tables, measures of association, and advanced methods, including loglinear modeling, logistic regression, McNemar's Test, Mantel-Haenszel test.
Occasional
COS - Department of Statistics

STA 5703. Data Mining Methodology I
3(3,0) PR: STA 5104 and STA 5206, graduate status or senior standing, or C.I. Supervised data mining tools including boosting trees, SV machine, regression, and neural network will be covered. The Enterprise Miner (R or Python) will be used.
Fall
COS - Department of Statistics

STA 5825. Stochastic Processes and Applied Probability Theory
3(3,0) PR: STA 4321, and graduate status or senior standing or C.I. Conditional probability and conditional expectations, sequences of random variables, branching processes, random walks, Markov chains, recurrent events, renewal theory, queueing theory, and simple stochastic processes.
Spring
COS - Department of Statistics

STA 6106. Statistical Computing I
3(3,0) Computer systems, approximating probabilities/percentiles, random number generation, linear model computations, and density estimation.
Fall
COS - Department of Statistics

STA 6107. Statistical Computing II
3(3,0) STA 6329 (or knowledge of matrix algebra), STA 6236 (or knowledge of linear regression), and familiarity with a higher level programming language (e.g., FORTRAN, C++, MATLAB). Linear regression: stepwise regression, Gauss-Jordan pivots, stand-up regression, residual analysis, Nonlinear regression; Gauss-Newton algorithm, derivative-free methods, constraints, iteratively reweighted least squares. General maximum likelihood methods: Newton-Raphson and Fisher-scoring, conjugate gradient and quasi-Newton methods, EM algorithm.
Occasional
COS - Department of Statistics

STA 6207. Response Surface and Mixture Experiments
3(3,0) STA 5205. Approximating response functions; first-order and second-order response surfaces; ridge systems; mixture problems, component proportions, and the analysis of mixture data.
Occasional
COS - Department of Statistics

STA 6226. Sampling Theory and Applications
3(3,0) PR: STA 4321. Different techniques of sampling, sampling for proportions, choosing sample size, ratio estimates, effects of sampling and non-sampling errors.
Occasional
COS - Department of Statistics

STA 6236. Regression Analysis
3(3,0) PR: MAS 3105 and STA 4164. General linear model, model aptness and remedial measures, regression through the origin, independent and dependent indicator variables, multicollinearity, outliers, biased regression.
Fall
COS - Department of Statistics

STA 6237. Nonlinear Regression
3(3,0) PR: STA 6236 (or knowledge of linear regression). Nonlinear regression: model specification, diagnostics. Estimation: nonlinear least squares, SAS, Gauss Newton algorithm. Robust regression: M-estimation adaptive robust regression. Logistic regression, Poisson regression.
Occasional
COS - Department of Statistics

STA 6238. Logistic Regression
3(3,0) PR: STA 6236. Studies of logistic regression models: estimation, interpretation, model building strategies and assessments, and polytomous regression, SAS programming in the application of logistic regression modeling.
Spring
COS - Department of Statistics

STA 6246. Linear Models
3(3,0) PR: STA 6329, STA 4164, and STA 4322. Theoretical development of full rank linear statistical models, least squares and maximum likelihood estimation, interval estimation, hypothesis testing, and introduction to less than full rank models.
Spring
COS - Department of Statistics

STA 6326. Theoretical Statistics I
3(3,0) PR: MAC 2313. Distribution of random variables, conditional probability and independence, some special distributions, distributions of functions of random variables, limiting distributions.
Fall
COS - Department of Statistics

STA 6327. Theoretical Statistics II
3(3,0) PR: STA 6326. Point estimation, sufficient statistics, completeness, exponential family, maximum likelihood estimators, statistical hypotheses, best tests, likelihood ratio tests, noncentral distributions.
Spring
COS - Department of Statistics

STA 6329. Statistical Applications of Matrix Algebra
3(3,0) PR: MAC 2313 and STA 4164 or STA 5206. Basic theory of determinants, inverses, generalized inverses, eigenvalues and eigenvectors, partitioned matrices. Diagonalization and decomposition theorems, least squares and statistical applications.
Fall
COS - Department of Statistics

STA 6346. Advanced Statistical Inference I
3(3,0) PR: STA 6327. Decision rules, risk functions, utility theory, the loss function, prior information and subjective probability, Bayesian analysis.
Occasional
COS - Department of Statistics

STA 6347. Advanced Statistical Inference II
3(3,0) STA 6346. Minimax analysis, invariance, admissibility, maximal invariants, sequential analysis.
Occasional
COS - Department of Statistics

STA 6507. Nonparametric Statistics
3(3,0) PR: STA 4321. Theory and methods for one and two sample problems; one and two way layouts; independence problems; regression problems.
Occasional
COS - Department of Statistics

STA 6662. Statistical Methods for Industrial Practice
3(3,0) STA 4164 or C.I. Variance components, PCRs, autocorrelation structures, charting, EVOP, design strategies, calibration, standards, and associated awards.
Occasional
COS - Department of Statistics

STA 6704. Data Mining Methodology II
3(3,0) PR: STA 5703. Unsupervised learning methods such as cluster analysis, association analysis and newly developed tools will be covered. The Enterprise Miner (R or Python) will be used.
Spring
COS - Department of Statistics

STA 6705. Data Mining Methodology III
3(3,0) PR: Graduate standing and STA 5703. Current topics in data mining.
Occasional
COS - Department of Statistics

STA 6707. Multivariate Statistical Methods
3(3,0) PR: MAS 3105, STA 4163, and STA 4322. Concepts of statistical relationships among several variables and methods for inference. Multivariate normal, Hotelling's T-Squared, multivariate analysis of variance, canonical correlations and principal components.
Occasional
COS - Department of Statistics

STA 6709. Spatial Statistics
3(3,0) STA 6707 and STA 5825 Statistical models and methods for analyzing data that are collected at different spatial locations and/or at different times, spatial or spatio-temporal data.
Even Spring
COS - Department of Statistics

STA 6714. Data Preparation
3(3,0) PR: STA 5104. Variable selections, missing value imputation, text, time series, and new data preparation method will be covered. The Enterprise Miner (R or Python) will be used.
Spring
COS - Department of Statistics

STA 6857. Applied Time Series Analysis
3(3,0) PR: STA 4322, MAS 3105. Stationarity, autocorrelation, moving averages and autoregressive processes. Non-stationary time series. Identification and estimation. Forecasting.
Occasional
COS - Department of Statistics

STA 7239. Dimension Reduction in Regression
3(3,0) STA 6236 or STA 5206 Reducing the number of random variables/features in regression, feature selection and extraction, kernel principal component analysis, locally linear embedding.
Occasional
COS - Department of Statistics

STA 7348. Bayesian Modeling and Computation
3(3,0) STA 5703 and STA 6704 Bayesian model, prior specification, basics of decision theory, Markov chain Monte Carlo, Bayes factor, empirical Bayes, Bayesian linear regression and generalized linear models, hierarchical models.
Occasional
COS - Department of Statistics

STA 7719. Survival Analysis
3(3,0) STA 6326 and STA 6327, or C.I. Censoring, hazard and survival functions, Kaplan-ÃƒÂ‚Ã‚“Meier estimator, lifetime table, partial likelihood, Cox proportional hazards model, accelerated failure time model.
Even Spring
COS - Department of Statistics

STA 7722. Statistical Learning Theory
3(3,0) STA 6329, STA 6327, and STA 6106 Discuss when statistical learning algorithms work and why by focusing on developing a theoretical understanding of the statistical properties of learning algorithms.
Even Fall
COS - Department of Statistics

STA 7734. Statistical Asymptotic Theory in Big Data
3(3,0) STA 6327 and STA 6704 Asymptotic theory of statistics, with an array of applications to motivate as well as demonstrate its utility in addressing problems in Big Data research.
Even Fall
COS - Department of Statistics

STA 7935. Current Topics in Big Data Analytics
3(3,0) STA 5703 and STA 6704 Discussion of new and current techniques developed to solve big data problems that are not covered in current big data analytic courses.
Occasional
COS - Department of Statistics

SYA 5625. ProSeminar
3(3,0) PR: Graduate standing or C.I. Survey of conceptual issues, methodological concerns, and findings in substantive sociological areas that currently dominate scholarly inquiry, including such topics as crime, deviance, community, alcoholism, education.
Fall
COS - Department of Sociology

SYA 5941. Participatory Geographic Information Systems in Belize
3(3,0) The conceptual frameworks, methodologies, and applications of Participatory Geographic Information Systems and related geospatial technologies for use in the field.
Summer
COS - Department of Sociology

SYA 6126. Social Theory
3(3,0) PR: Regular graduate standing or C.I. The study of selected sociological theories in terms of relevance, usefulness, and adequacy for applied sociology.
Spring
COS - Department of Sociology

SYA 6128. Theoretical Criminology
3(3,0) PR: Graduate standing or C.I. The study of selected sociological theories to develop student understanding of each theory and its application to the analysis of crime and criminal events.
Even Spring
COS - Department of Sociology

SYA 6305. Social Research
3(3,0) PR: Regular graduate standing or C.I. Research methodology including problem conceptualization, sampling designs, research proposals, data collection, and evaluation techniques for applied settings.
Fall
COS - Department of Sociology

SYA 6315. Qualitative Research Methods
3(3,0) PR: Graduate Standing. Examination of qualitative research methods, how and when they are employed, and processes of analyzing field observation, oral histories, and in depth interviews
Occasional
COS - Department of Sociology

SYA 6356. Geographic Information Systems in Society
3(3,0) Graduate standing or C.I. The art and science of GIS and related geospatial technologies across the social and environmental sciences.
Spring
COS - Department of Sociology

SYA 6425. Design and Conduct of Social Surveys
3(3,0) PR: Graduate standing or C.I. Advanced social survey research methods, including sampling theory and applications, measurement, data collection modalities, questionnaire construction, and data reduction strategies.
Occasional
COS - Department of Sociology

SYA 6452. GIS Applications
3(3,0) SYA 6455 or C.I. The concepts and implementations of the geographic information analysis and integrate GIS with real-world applications.
Spring
COS - Department of Sociology

SYA 6455. Research Analysis
3(2,2) PR: SYA 6305, undergraduate statistics, regular graduate standing, or C.I. Data management, selection of statistics, data analysis, evaluation, data presentation, and computer skills.
Spring
COS - Department of Sociology

SYA 6458. Advanced Topics in Geographic Information Systems in Society
3(3,0) Graduate standing or C.I. Focuses on advanced special topics in Geographic Information Systems related to the technology's use in and impact on society.
Odd Spring
COS - Department of Sociology

SYA 6657. Program Design and Evaluation
3(3,0) PR: SYA 6305 and SYA 6455 or C.I. Techniques of system and policy assessment, evaluation, and design. Determination of consequences and implications of policies and practices in applied settings.
Spring
COS - Department of Sociology

SYA 6660. Seminar in Teaching Sociology
3(3,0) PR: Graduate standing or C.I. Pedagogical theories and Practices for sociologists.
Occasional
COS - Department of Sociology

SYA 6933. Topics in Sociological Theory
3(3,0) Graduate standing or C.I. In-depth examination of a particular area of sociological theory, emphasizing major developments, current uses, implications for research, and overall impact on the field.
Occasional
COS - Department of Sociology

SYA 7019. Advanced Sociological Theory
3(3,0) PR: SYA 6126 and doctoral standing or C.I. Research seminar in sociological theory.
Fall
COS - Department of Sociology

SYA 7309. Advanced Sociological Research Methods
3(3,0) PR: SYA 6305 and doctoral standing or C.I. Applied research, incorporating aspects of project design, budgeting, grants and contracts, methodological techniques, report writing, and ethical issues.
Fall
COS - Department of Sociology

SYA 7407. Advanced Data Analysis
3(3,0) PR: SYA 6305 and SYA 6455 and doctoral standing or C.I. Multivariate statistical techniques and the development of computer skills.
Spring
COS - Department of Sociology

SYA 7457. Topics in Data Analysis
3(3,0) PR: SYA 7407 and doctoral standing or C.I. Application of multivariate statistical techniques.
Occasional
COS - Department of Sociology

SYA 7658. Social Policy and Research Analysis
3(3,0) PR: Doctoral standing or C.I. Sociological perspectives on creation, development, implementation, and consequences of social policy.
Fall
COS - Department of Sociology

SYD 5517. Environment and Society
3(3,0) PR: Graduate standing or C.I. The application of sociological theory and methods to the relationships between communities, societies, and the environment
Occasional
COS - Department of Sociology

SYD 6363. Social Inequalities and Reproductive Health
3(3,0) Graduate standing or C.I. Sociological investigation of inequalities in reproductive health. Focuses on how inequalities (race, class, gender, sexuality), institutions and ideologies shape reproductive options, experiences and outcomes.
Occasional
COS - Department of Sociology

SYD 6417. Contemporary Urban Sociology
3(3,0) PR: Graduate standing or C.I. Contemporary issues in urban sociology.
Occasional
COS - Department of Sociology

SYD 6418. Issues in Urban Sociology
3(3,0) Graduate standing in Sociology or related field, or C.I. Development and current condition of urban residents.
Occasional
COS - Department of Sociology

SYD 6428. Poverty, Homelessness and the Cities
3(3,0) PR: Graduate standing in sociology or related discipline or C.I. Poverty, homelessness and their impact on American cities in the 21st century.
Occasional
COS - Department of Sociology

SYD 6538. Topics in Social Inequalities
3(3,0) PR: Graduate standing or C.I. Examines cutting-edge research in an area of social inequalities, with an emphasis on how social inequalities are created and maintained in contemporary society. May be used in the degree program a maximum of 3 times.
Occasional
COS - Department of Sociology

SYD 6705. Seminar in Race and Ethnicity
3(3,0) PR: Graduate standing in Sociology or C.I. A sociological examination of the experiences of racial and ethnic groups in the United States.
Occasional
COS - Department of Sociology

SYD 6795. Class, Race, and Gender in American Society
3(3,0) PR: Graduate standing or C.I. Applies a sociological perspective to analyze how individuals, groups and institutions are shaped by privilege and disadvantaged based on gender, race and class.
Odd Spring
COS - Department of Sociology

SYD 6809. Seminar in Gender Issues
3(3,0) PR: Graduate standing in Sociology or C.I. Using theoretical and empirical studies, this course will provide a sociological examination of gender issues that influence relationships between women and men.
Occasional
COS - Department of Sociology

SYG 7980. Doctoral Dissertation
VAR(VAR,VAR) PR: Candidacy status. Doctoral dissertation. Graded S/U. May be repeated for credit.
Fall,Spring,Summer
COS - Department of Sociology

SYO 6175. Social Research in the Family
3(3,0) PR: Graduate standing or C.I. To offer an overview of current research in the family. The family will be viewed from the institutional level, individual social system, and individual level.
Occasional
COS - Department of Sociology

SYO 6205. Religion and Society
3(3,0) PR: Graduate standing. Research in the sociology of religion.
Occasional
COS - Department of Sociology

SYO 6256. Inequality and Education
3(3,0) Graduate standing or C.I. Use sociological theories to explore the role of the educational system in reproducing inequality with regard to race, class, gender, language, health and disability.
Occasional
COS - Department of Sociology

SYO 6405. Sociology of Health and Illness
3(3,0) PR: Graduate standing or C.I. Sociological models of health and illness.
Occasional
COS - Department of Sociology

SYO 6406. Medical Sociology
3(3,0) Graduate standing or C.I. Theory and research in medical sociology; systematic overview of salient sociological issues in health and medicine.
Occasional
COS - Department of Sociology

SYO 6515. Issues in Social Disorganization
3(3,0) PR: Graduate standing or C.I. Sociological study and analysis of the manner in which American society is organized and the consequences of the way in which its cultural premises are arranged.
Occasional
COS - Department of Sociology

SYP 5005. Sociological Social Psychology
3(3,0) PR: Graduate standing or C.I. An exploration of sociological social psychological theories and their application in understanding the effects of society and groups on the individual.
Occasional
COS - Department of Sociology

SYP 5566. Seminar on Domestic Violence: Theory, Research and Social Policy
3(3,0) PR: Graduate status or senior standing or C.I. A sociological examination and evaluation of theories, empirical research and social policy related to the study of domestic violence.
Occasional
COS - Department of Sociology

SYP 6515. Deviant Behavior Issues
3(3,0) PR: Graduate standing or C.I. An examination and evaluation of the forms of social deviance, and the organizations designed to respond to them.
Occasional
COS - Department of Sociology

SYP 6517. Topics in Crime and Deviance
3(3,0) Graduate standing or C.I. Seminar involving an in-depth examination of current topics relating to crime and deviance.
Occasional
COS - Department of Sociology

SYP 6518. Guns, Crime and Violence
3(3,0) PR: Graduate standing in sociology or related discipline or C.I. Role of firearms in America: Guns in history; civilian gun ownership; guns, crime and criminals; and guns and public policy.
Occasional
COS - Department of Sociology

SYP 6522. Sociological Perspectives on Victims
3(3,0) PR: Graduate standing or C.I. An analytical examination of crime victims and victimology from a sociological perspective.
Occasional
COS - Department of Sociology

SYP 6524. Social Organization of Homicide
3(3,0) PR: Graduate standing or C.I. An in-depth analysis of the social and cultural context of homicide and of intervention strategies. The primary emphasis is on the contemporary U.S.
Occasional
COS - Department of Sociology

SYP 6546. Crime, Law, Inequality
3(3,0) PR: Graduate standing. The consequences of social stratification on criminality and treatment/protection by the legal system. This course examines literature concerning inequality and the sociology of law.
Occasional
COS - Department of Sociology

SYP 6555. Sociology of Alcohol and Drugs
3(3,0) PR: Graduate standing in sociology or related fields or C.I. Themes and research literatures in the sociology of alcohol and drug use, misuse and abuse and the social policy response.
Occasional
COS - Department of Sociology

SYP 6561. Child Abuse in Society
3(3,0) PR: Graduate standing or C.I. A sociological examination of literature and current research pertaining to child abuse and neglect.
Occasional
COS - Department of Sociology

SYP 6563. Reactions to Domestic Violence
3(3,0) PR: Graduate standing or C.I. The reactions by communities, victims, and professionals to domestic violence. Topics include examination of policies on domestic violence, and issues relating to race, class, and gender.
Occasional
COS - Department of Sociology

SYP 6565. Elder Abuse and Neglect
3(3,0) PR: Graduate standing or C.I. A sociological examination of elder abuse and neglect in the family and other social settings.
Occasional
COS - Department of Sociology

SYP 6735. Seminar in the Sociology of Aging
3(3,0) PR: Graduate standing or C.I. Research-oriented seminar covering historical, present and future sociocultural perspectives of aging.
Occasional
COS - Department of Sociology

TAX 5015. Advanced Tax Topics
3(3,0) PR: Graduate standing, TAX 4001 with a "C" (2.0) or better. Advanced tax issues affecting business entities and their owners, with a primary focus on corporations and partnerships.
Occasional
BA - Kenneth G. Dixon School of Accounting

TAX 6065. Tax Research
3(3,0) PR: Graduate standing and completion of all business and accounting foundation core courses and a "C" (2.0) or better in TAX 5015. Legal and ethical guidelines governing tax practice.
Fall,Spring
BA - Kenneth G. Dixon School of Accounting

TAX 6135. Taxation of Corporations and Shareholders
3(3,0) PR: TAX 4001 and graduate standing. Federal taxation relating to corporate organization, distributions, liquidations, accumulations, and reorganizations.
Occasional
BA - Kenneth G. Dixon School of Accounting

TAX 6317. Taxation of Flow-thru Entities
3(3,0) PR: Graduate standing and completion of all business and accounting foundation core courses and a "C" (2.0) or better in TAX 5015. Federal taxation relating to operations, formation, distribution, retirements and liquidations of flow-thru entities such as partnerships, limited liability companies, and S corporations.
Occasional
BA - Kenneth G. Dixon School of Accounting

TAX 6405. Taxation of Estates and Gifts
3(3,0) PR: TAX 4001 and graduate standing. Federal transfer taxes affecting gifts and estates.
Occasional
BA - Kenneth G. Dixon School of Accounting

TAX 6527. Multi-jurisdictional Taxation
3(3,0) PR: Graduate standing and TAX 4001. Study of tax issues involved when business enterprises operate in multiple taxing jurisdictions. Principles of both multi-state and international income taxation.
Occasional
BA - Kenneth G. Dixon School of Accounting

TAX 6845. Tax Planning and Consulting
3(3,0) PR: Graduate standing and completion of all business and accounting foundation core courses and a "C" (2.0) or better in TAX 5015. Individual and business tax planning.
Occasional
BA - Kenneth G. Dixon School of Accounting

TAX 6875. Contemporary Tax Topics
3(3,0) PR: Graduate standing and TAX 5015. Advanced study of current tax issues affecting both business and individual taxpayers, including tax policy, pending tax legislation and tax reform.
Occasional
BA - Kenneth G. Dixon School of Accounting

THE 5205. American Theatre
3(3,0) PR: THE 5910, and MA or MFA Theatre Graduate. Examination of performance and historical perspectives of American drama.
Spring
CAH - Department of Theatre

THE 5215. Global Theatre
3(3,0) PR: Admission into the MFA/MA Theatre programs or C.I. Theatrical arts and traditions of various countries with an emphasis on non-western countries.
Occasional
CAH - Department of Theatre

THE 5237. Cultural Diversity in Theatre
3(3,0) PR: Admission into the MFA/MA Theatre programs or C.I. Commonality of human experience among various groups through the study of dramatic literature.
Occasional
CAH - Department of Theatre

THE 5248. Musical Theatre in History
3(3,0) PR: Admission to MFA Musical Theatre Program. A chronological study of musical theatre from early Viennese operetta to the musicals of the modern age. Course will emphasize the work of composers, librettists, and lyricists as well as representative masterworks of a variety of genre. Emphasis will be placed upon historical trends and theatrical viability.
Fall
CAH - Department of Theatre

THE 5288. Period Costumes, Architecture and D?cor I
3(3,0) PR: Admission into Theatre MFA Design track. Costumes, architecture and decor from antiquity to the renaissance.
Fall
CAH - Department of Theatre

THE 5289. Period Costumes, Architecture and Decor II
3(3,0) PR: THE 5288. Costumes, architecture and decor from the Renaissance to present.
Spring
CAH - Department of Theatre

THE 5307. Contemporary Theatre Practice
3(3,0) PR: THE 3311, THE 3312, THE 3313, Restricted to Theatre majors or departmental consent. Contemporary trends in plays and theatre production in the late 20th century.
Spring
CAH - Department of Theatre

THE 5385. Dramatic Literature for Children
3(3,0) PR: Admission to MFA graduate program or C.I. An in-depth study of the growth and development of dramatic literature for children.
Even Fall
CAH - Department of Theatre

THE 5425. Women in Theatre
3(3,0) PR: Admission into the MFA/MA Theatre programs or C.I. An overview of women's contributions to theatre.
Occasional
CAH - Department of Theatre

THE 5545. Theatre for Social Change
3(3,0) PR: Admission into the MFA/MA Theatre programs or C.I. Theatre activists' impact on theatrical art forms.
Occasional
CAH - Department of Theatre

THE 5910. Research Methods in Theatre
3(3,0) PR: MFA and MA in Theatre. Practice knowledge, skills and techniques needed by students to conduct research to include organization, styles, footnotes, and bibliographic forms.
Fall
CAH - Department of Theatre

THE 5945L. Theatre Practicum I
1(0,20) PR: Graduate status or C.I. A laboratory course designed to develop students' practical working knowledge in Theatre.
Occasional
CAH - Department of Theatre

THE 5946L. Theatre Practicum II
1(0,20) PR: Admission into the graduate program, Theatre Practicum I. A laboratory course designed to develop students' practical working knowledge in theatre.
Occasional
CAH - Department of Theatre

THE 6086C. Careers in Professional Theatre
3(2,2) PR: Admission to the graduate program in Theatre or C.I. Practical courses focusing on job search skills and other aspects of marketing yourself.
Spring
CAH - Department of Theatre

THE 6308. Script and Score Analysis
3(3,0) PR: Admission to MFA Musical Theatre program. Representative works from the musical theatre repertoire analyzed as dramatic and musical literature.
Fall
CAH - Department of Theatre

THE 6507. Dramatic Theory and Criticism
3(3,0) PR: Admission into Theatre graduate program and research methods course. Examination of principles of dramatic criticism from Aristotle to the present day.
Fall
CAH - Department of Theatre

THE 6726. Advanced TYA Seminar
3(3,0) PR: THE 5910 and THE 6756. Historical, theoretical, and international contexts shaping the field of Theatre for Young Audiences.

CAH - Department of Theatre

THE 6756. Methods of Teaching Drama
3(3,0) PR: Admission to Theatre graduate program or C.I. Methods of teaching drama in contained classroom settings to youth.
Fall
CAH - Department of Theatre

THE 6947L. Theatre Practicum III
1(0,20) PR: Admission into the graduate program, Theatre Practicum II. A laboratory course designed to develop students' practical working knowledge in theatre.
Occasional
CAH - Department of Theatre

THE 6948. Professional Internship
4(4,0) PR: Admission to the MFA Acting program Field work as company members of the Orlando Shakespeare Theatre.
Even Fall,Odd Spring
CAH - Department of Theatre

TPA 5029C. Lighting Design Studio
3(2,2) PR: TPA 5042C and TPA 5062C. Advanced work in the process of designing light for the stage with an emphasis on the use of light as artistic expression.
Occasional
CAH - Department of Theatre

TPA 5042C. Costume Design Studio
3(2,2) PR: Admission to the graduate program in Theatre or C.I. Project oriented course in the advance study of Costume Design.
Occasional
CAH - Department of Theatre

TPA 5062C. Scene Design Studio
3(2,2) PR: Graduate status or C.I. Advanced work in the conceptualization and communication of scenic designs for the theatre.
Spring
CAH - Department of Theatre

TPA 5081C. Design Concepts for Youth Theatre
3(3,3) PR: Admission to the graduate program in Theatre or C.I. A study of design elements (lighting, costume, set) as they apply to youth theatre.
Odd Spring
CAH - Department of Theatre

TPA 5085C. Design Seminar for Theatre
2(2,2) PR: Admission into Theatre MFA Design track. Scenic, costume, lighting and sound design for theatre.
Occasional
CAH - Department of Theatre

TPA 5095C. Rendering for Theatre I
1(1,1) PR: Admission to the graduate program in Theatre or C.I. Traditional visual communication skills necessary for scenic, costume, and lighting design.
Fall
CAH - Department of Theatre

TPA 5175C. Rendering for Theatre II
1(1,1) PR: TPA 5095C. Software and technology available for visual communication and documentation.
Spring
CAH - Department of Theatre

TPA 5345C. 2D Computer Assisted Design for Theatre
2(2,2) PR: Admission into the Theatre MFA Design track. Two-Dimensional computer drafting and editing techniques applicable to theatre design.
Occasional
CAH - Department of Theatre

TPA 5346C. 3D Modeling for Theatre
2(2,2) PR: TPA 5345C. Three-dimensional computer modeling and editing techniques applicable for theatre design.
Occasional
CAH - Department of Theatre

TPA 5405. Theatre Management for Non-Majors
3(3,0) PR: THE 2020 or THE 2000, graduate status, or C.I. Study of university, community and professional theatre management with special attention to the principles of management to include management skills/function and organizational systems/performance as they relate to theatre organizations/institutions.
Fall
CAH - Department of Theatre

TPA 5885C. Puppetry
2(2,2) PR: Admission to MFA graduate program or C.I. Puppetry as an art form in design and performance.
Odd Spring
CAH - Department of Theatre

TPA 5946C. Design Practicum I
1(0,20) PR: Admission into the MFA Design program. Practical experience as a member of the production team as a prop master or assistant scenic, costume, lighting, or sound designer.
Occasional
CAH - Department of Theatre

TPA 5949C. Design Practicum II
1(0,20) PR: Admission into the graduate program and TPA 5946C or C.I. Advanced work in the practical application of Properties and/or Design for the Theatre.
Occasional
CAH - Department of Theatre

TPA 6087C. Advanced Design Seminar for Theatre
3(3,2) PR: TPA 5085C. Continuation of Design Seminar for Theatre.
Spring
CAH - Department of Theatre

TPA 6096C. Advanced Rendering and Modeling for Theatre I
3(2,2) PR: TPA 5095C. Technology relating to visual communication as well as 3 dimensional communication tools. May be used in the degree program a maximum of 3 times.
Fall
CAH - Department of Theatre

TPA 6097C. Advanced Rendering and Modeling II
3(2,2) PR: TPA 6096C. A continuation of Advanced Rendering and Modeling I with an emphasis on creating a professional portfolio of advanced work. May be used in the degree program a maximum of 3 times.
Spring
CAH - Department of Theatre

TPA 6106C. Sound Design Studio
3(2,2) PR: MFA Design candidate, Advanced Problems in Design I. Advanced work in the process of designing sound for the stage with an emphasis on the use of sound as artistic expression.
Occasional
CAH - Department of Theatre

TPA 6209C. Theatre Crafts
3(1,12) PR: MFA Design candidates, Advanced Problems in Design I. Advanced practical application course covering various design and technology based skills relating to the realization of departmental productions.
Occasional
CAH - Department of Theatre

TPA 6288C. Mask Making
3(2,2) Admission to MFA graduate program or C.I. Masks as an art form in design and performance.
Occasional
CAH - Department of Theatre

TPA 6406C. Theatre Management
3(1,6) Admission to MFA graduate program or C.I. Study and application of concepts and tools of theatre management.

CAH - Department of Theatre

TPA 6947. Design Practicum III
1(0,20) TPA 5949C. Practical experience as a member of the production team as a scenic, costume, lighting, or sound designer in an area not previously designed.
Occasional
CAH - Department of Theatre

TPA 6948L. Design Practicum IV
1(0,20) MFA Design Candidate, Design Practicum III. Practical experience as a member of the production team as a scenic, costume, lighting, or sound designer in an area not previously designed.
Occasional
CAH - Department of Theatre

TPP 5087C. Theatre Careers in Performance
3(2,2) Admission to the MFA and MA programs in Theatre Techniques needed to secure employment in performance or related fields.
Even Spring
CAH - Department of Theatre

TPP 5125C. Improvisation Studio
2(2,2) PR: Acting for Youth Theatre. A study of spontaneous dramatic play and theatre exercises designed to develop self-discipline, creative freedom and resources for the stage and classroom.
Odd Fall
CAH - Department of Theatre

TPP 5156C. Acting Studio I
3(2,2) PR: Admission to the MFA Acting program. An advanced scene study course using Shakespeare's canon to explore scene analysis, character development, and application of acting techniques.
Even Fall
CAH - Department of Theatre

TPP 5157C. Acting Studio II
3(2,2) PR: TPP 5156C. Advanced scene study course applying acting methodologies to the works of modern playwrights.
Odd Spring
CAH - Department of Theatre

TPP 5246C. Circus Arts
2(2,2) PR: Admission to Theatre graduate program or C.I. Circus skills and history.
Even Spring
CAH - Department of Theatre

TPP 5248C. Storytelling as a Theatrical Art Form
2(2,2) PR: Admission to Theatre graduate program or C.I. Application of storytelling as an art form.
Spring
CAH - Department of Theatre

TPP 5273. Musical Theatre Acting I
2(2,0) PR: TPP 5157C. Integrated study in musical theatre acting, singing and movement applied to musical theatre performance, direction and choreography; emphasizing developing skills in textual and musical interpretation.
Occasional
CAH - Department of Theatre

TPP 5278C. Musical Theatre Lab
1(1,1) PR: TPP 5157C. Practical course in developing musical theatre skills for the actor.
Spring
CAH - Department of Theatre

TPP 5289C. Acting Methodologies
2(2,3) PR: Admission to the graduate program in Theatre or C.I. Approaches to acting.
Even Fall
CAH - Department of Theatre

TPP 5386C. Directing for Young Audiences
3(3,3) PR: THE 5910 and THE 5385. Study of the principles, procedures, and practices of stage direction as it applies to theatre for young audiences.
Odd Spring
CAH - Department of Theatre

TPP 5515. Movement Studio I
2(2,0) PR: Admission to MFA Performance Program. Graduate level course in principles and methods of movement for the stage focusing on relaxation, centering, increased physical control, and physical development of a character.
Fall
CAH - Department of Theatre

TPP 5516C. Movement Studio II
2(2,1) PR: TPP 5515 or C.I. Principles and methods of movement for the stage focusing on gaining specific knowledge and skills in period styles of movement and basic unarmed combat.
Spring
CAH - Department of Theatre

TPP 5554C. Musical Theatre Dance I
2(2,4) PR: MFA Musical Theatre Majors. Advanced dance study with particular emphasis on the development of principles of alignment, coordination, isolation, and sequencing.
Fall
CAH - Department of Theatre

TPP 5555C. Musical Theatre Dance II
2(2,4) PR: TPP 5554C. Advanced dance study with particular emphasis on the development and expression of characterization in dance.
Spring
CAH - Department of Theatre

TPP 5715C. Stage Voice I
2(2,1) PR: Admission to the MFA Acting program. Fundamentals of breathing and vocal production. Combination of various voice methodologies, focusing on the relaxation of physical tension and articulation.
Even Fall
CAH - Department of Theatre

TPP 5716C. Stage Voice II
2(2,1) PR: Admission to MFA Acting program Continuation of Stage Voice I, including Skinner's IPA and application of physical vocal techniques to longer texts.
Odd Spring
CAH - Department of Theatre

TPP 5754. Musical Theatre Voice I
2(2,0) PR: Admission to MFA Musical Theatre program. Voice study devoted to the diagnosis and development of the singing voice and its application to musical theatre performance placing particular emphasis upon vocal technique.
Fall
CAH - Department of Theatre

TPP 5935C. Contemporary Practices in Youth Theatre
2(2,2) PR: Admission to MFA graduate program or C.I. Investigation of a particular subject in youth theatre. May be used in the degree program a maximum of 5 times.
Odd Spring
CAH - Department of Theatre

TPP 6146C. Acting Studio III
3(2,2) PR: TPP 5157C Acting Studio II. An advanced acting course applying acting methodologies to the works of classical playwrights and a variety of styles.
Odd Fall
CAH - Department of Theatre

TPP 6186C. Advanced Scene Study
2(2,1) PR: Admission to MFA Acting program. Acting techniques related to all forms of theatre including TYA, commercial, and new play development.
Even Fall
CAH - Department of Theatre

TPP 6216C. Theatre for Young Audiences Tour
3(3,6) PR: Admission to the graduate program in Theatre or C.I. Performance, administration and technical work on a touring production for young audiences.
Even Spring
CAH - Department of Theatre

TPP 6247. Theatre for Social Change
3(3,0) PR: Methods of Teaching Drama. The study and application of interactive theatre techniques to effect change related to social, cultural, interpersonal and personal issues.
Even Spring
CAH - Department of Theatre

TPP 6267. Acting Studio IV
2(2,1) PR: TPP 6146. An advanced acting class that focuses on the technical and practical aspects of acting for film and television.
Even Spring
CAH - Department of Theatre

TPP 6274. Musical Theatre Acting II
2(2,0) PR: TPP 5273. Advanced and integrated study with emphasis on the development of skills in musical theatre characterization.
Spring
CAH - Department of Theatre

TPP 6279. Musical Theatre Master Class
2(2,0) PR: Admission to Theatre MFA Musical Theatre Track. Master classes conducted by permanent staff members and guest artists of the Seaside Music Theatre Company.
Fall
CAH - Department of Theatre

TPP 6344. Musical Theatre Directing
3(3,0) PR: Admission to MFA Musical Theatre program. A comprehensive study and practical application of the unique problems of directing for the musical stage.
Spring
CAH - Department of Theatre

TPP 6517. Movement Studio III
2(2,1) PR: TPP 5516C. Continuation of principles/methods of movement for the stage covered in Movement Studio II with focus on gaining specific skills in dance for musical theatre/period plays.
Fall
CAH - Department of Theatre

TPP 6518C. Movement Studio IV
2(2,3) PR: Movement Studio III. Covers the principles/methods of armed/unarmed combat for the stage, including hand to hand, foil, epee, broadsword, sabre, rapier, dagger, and quarter staff combat.
Spring
CAH - Department of Theatre

TPP 6556C. Musical Theatre Dance III
2(2,4) PR: TPP 5555C. Advanced dance study with particular emphasis on the development of jazz and tap technique.
Fall
CAH - Department of Theatre

TPP 6557C. Musical Theatre Dance IV
2(2,4) PR: TPP 6556C. Advanced dance study with particular emphasis on the development of musical theater dance style and choreography.
Spring
CAH - Department of Theatre

TPP 6686. Playwriting for Young Audiences
3(3,0) PR: Dramatic Literature for Children. Practical experience in the creative process of playwriting for young audiences.
Odd Fall
CAH - Department of Theatre

TPP 6717C. Stage Voice III
2(2,1) PR: Admission to MFA Acting program. Continuation of Stage Voice I and II, focusing on Shakespeare's use of language.
Odd Fall
CAH - Department of Theatre

TPP 6718C. Stage Voice IV
2(2,3) PR: Stage Voice III. A practical study of American and European dialects with application of Skinner and Lessac transcription.
Spring
CAH - Department of Theatre

TPP 6755. Musical Theatre Voice II
2(2,0) PR: Admission to MFA Musical Theatre program. Advanced voice study placing particular emphasis upon textual analysis and characterization.
Spring
CAH - Department of Theatre

TPP 6756. Musical Theatre Voice III
2(2,0) PR: Admission to MFA Musical Theatre program. Continuation of Musical Theatre Voice II placing particular emphasis upon knowledge of musical theatre repertoire and its application to the history of the art form.
Fall
CAH - Department of Theatre

TPP 6757. Musical Theatre Voice IV
2(2,0) PR: Admission to MFA Musical Theatre program. Continuation of Musical Theatre Voice III placing particular emphasis on synthesizing scene-to-song vocal production.
Spring
CAH - Department of Theatre

TPP 6933. Acting Studio V
2(2,1) TPP 6267 An advanced acting course that will explore and develop specialty areas of actor training.
Odd Spring
CAH - Department of Theatre

TSL 5085. Teaching Language Minority Students in K-12 Classrooms
3(3,0) PR: Admission to College of Education Master of Arts Program or C.I. Teaching K-12 limited English proficient (LEP) students. Florida standards regarding cross-cultural communication, ESOL curriculum, and materials, ESOL methodology, testing and evaluation of ESOL students, applied linguistics.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

TSL 5325. ESOL Strategies
3(3,0) PR: Graduate status or senior standing or C.I. This course will survey cross-cultural communication and understanding, testing and evaluation, curriculum and methods of teaching ESOL to meet the needs of limited English proficient students.
Occasional
CAH - Department of Modern Languages and Literatures

TSL 5345. Methods of ESOL Teaching
3(3,0) This course is designed to develop understanding, knowledge and skills of the current methods used in the teaching of ESOL.
Fall,Spring
ED - School of Teaching, Learning, and Leadership

TSL 5376. Reading and Writing in a Second Language
3(3,0) PR: Graduate standing or C.I. Theoretical and pedagogical approaches to ESOL reading and writing.
Occasional
CAH - Department of Modern Languages and Literatures

TSL 5380. Computers and Technology for ESOL
3(3,0) PR: Graduate standing or C.I. Emphasizes research in computer assisted language learning, as well as design and evaluation of software and websites for learning English as a second language.
Even Summer
CAH - Department of Modern Languages and Literatures

TSL 5525. ESOL Cultural Diversity
3(3,0) This course is designed to identify major cultural groups represented by the LEP population in Florida schools and to understand their special needs.
Summer
ED - School of Teaching, Learning, and Leadership

TSL 5601. Second Language Vocabulary Learning
3(3,0) PR: Graduate standing or C.I. Considers lexical issues encountered by second language learners; explores best practices for learners and their teachers and examines current research for pedagogical application.
Occasional
CAH - Department of Modern Languages and Literatures

TSL 5940. Issues in TEFL
3(3,0) PR: Graduate status or senior standing or C.I. Address issues specifically related to TEFL, such as materials adaptation, teaching in multi-level classrooms, learning styles, cultural issues, and curriculum syllabus design.
Spring
CAH - Department of Modern Languages and Literatures

TSL 6142. Critical Approaches to ESOL
3(3,0) Emphasis placed on current research in second language acquisition as it relates to the development of ESOL curriculum and materials.
Fall
CAH - Department of Modern Languages and Literatures

TSL 6250. Applied Linguistics in ESOL
3(3,0) Applying linguistics, psycholinguistics, and sociolinguistics to teaching English as a second language with emphasis on pronunciation, intonation, structural analysis, morphophonemics, and decoding from print to sound.
Spring
CAH - Department of Modern Languages and Literatures

TSL 6252. Sociolinguistics for ESOL
3(3,0) PR: Graduate standing or C.I. Core concepts in the field of sociolinguistics as it relates to the teaching of English as a second language.
Fall
CAH - Department of Modern Languages and Literatures

TSL 6350. Grammar for ESOL Teachers
3(3,0) PR: Graduate standing or C.I. Emphasis on English grammar for English as a Second Language teachers. Includes analytical and theoretical background, but primarily examines problematic grammar points for ESOL learners.
Occasional
CAH - Department of Modern Languages and Literatures

TSL 6374. TESOL Listening, Speaking and Pronunciation
3(3,0) Graduate standing or C.I. Applications of second language acquisition theories, principles, and current research as they relate to the teaching of ESL listening, speaking and pronunciation.
Even Fall
CAH - Department of Modern Languages and Literatures

TSL 6379. Second Language Literacy
3(3,0) PR: TSL 5085 or TSL 5345 AND TSL 6250. An overview of literacy issues and literacy instruction for second language learners.
Even Fall
ED - School of Teaching, Learning, and Leadership

TSL 6440. Assessment Issues in TESOL
3(3,0) PR: Graduate standing or C.I. This course provides for the development of sound assessment knowledge necessary to prepare students to apply second language assessment theories, principles, and current research.
Even Fall,Even Spring
CAH - Department of Modern Languages and Literatures

TSL 6442. Fundamentals of Standardized Assessment in TESOL
3(3,0) Graduate standing or C.I. This course will address the standardized assessment practices in TESOL as well as the instructional and research implications.
Fall
CAH - Department of Modern Languages and Literatures

TSL 6600. Second Language Vocabulary Acquisition
3(3,0) PR: Graduate standing or C.I. and one of the following graduate research courses: TSL 6640, EDF 6481, EDF 7475, EDF 7403. Research on how learners acquire new vocabulary in a second language. Course requires extensive reading as well as original field research.
Even Spring
CAH - Department of Modern Languages and Literatures

TSL 6640. Research in Second Language
3(3,0) PR: EDF 6481. This course focuses on research into language learning processes which serves as a knowledge base for effective teaching of language-minority students.
Occasional
CAH - Department of Modern Languages and Literatures

TSL 6642. Issues in Second Language Acquisition
3(3,0) PR: TSL 6250, TSL 6640. Focuses on second language acquisition theories, principles, and current research as they relate to language-minority students acquiring English as a Second Foreign Language.
Even Spring
CAH - Department of Modern Languages and Literatures

TSL 6643. Diachronic Analysis of Second Language Acquisition Processes
3(3,0) PR: Graduate standing or C.I. Analysis of current research on second language acquisition (SLA) processes across the life span.
Odd Fall
CAH - Department of Modern Languages and Literatures

TSL 6940. ESOL Practicum
3(3,0) PR: Graduate standing or C.I. Techniques and strategies for creating effective lesson plans for ESOL classroom activities. Graded S/U.
Fall,Spring,Summer
CAH - Department of Modern Languages and Literatures

TSL 6971. Thesis
VAR This course is intended for graduate students in the TESOL MA program who wish to exercise the option of writing a thesis. Graded S/U. May be repeated for credit.
Occasional
CAH - Department of Modern Languages and Literatures

TSL 7006. Second Language Teacher Preparation
3(3,0) PR: Admission to TESOL Ph.D. track or C.I. Examines the history of general and second language teacher preparation and provides a theoretical and practical rationale for the development of knowledge, skills, and dispositions necessary to prepare ESL and other teachers of English learners.
Even Spring
ED - School of Teaching, Learning, and Leadership

TSL 7948. Doctoral Internship
3(3,0) PR: Graduate standing or C.I. Students work with faculty members to develop teaching competency and research focus through a professional teaching experience. May be used in the degree program a maximum of 2 times.
Fall,Spring
CAH - Department of Modern Languages and Literatures

TSL 7980. Dissertation Research
VAR(0-99) PR: Student must be in candidacy. This is a dissertation research course. Graded S/U. May be repeated for credit.
Fall,Spring,Summer
ED - School of Teaching, Learning, and Leadership

TTE 5204. Traffic Engineering
3(3,0) PR: TTE 3810 or C.I. Study of operator and vehicle characteristics, and design for street capacity, signals, signs, and markings.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

TTE 5805. Geometric Design of Transportation Systems
3(3,0) PR: TTE 3810 or C.I. Study of highway geometric design in the engineering of transportation systems.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

TTE 5835. Pavement Engineering
3(3,0) EGN 3331C, CGN 3501C, CEG 4011C Materials, analysis, evaluation, and management of pavement and pavement systems.
Even Fall
ECS - Department of Civil, Environmental, and Construction Engineering

TTE 6205. Highway Capacity
3(3,0) PR: TTE 6256 or TTE 5204 or C.I. Highway capacity for all functional classes of highway. Traffic signalization including traffic studies, warrants, cycle length, timing, phasing and coordination.
Fall
ECS - Department of Civil, Environmental, and Construction Engineering

TTE 6256. Traffic Operations
3(3,0) PR: TTE 4274 or C.I. Fundamentals of traffic flow theory and applications to traffic operations on highways and streets. Work on real life traffic operations project and report results.
Fall
ECS - Department of Civil, Environmental, and Construction Engineering

TTE 6270. Intelligent Transportation Systems
3(3,0) PR: TTE 6256 or TTE 5204 or C.I. Theories and applications of intelligent vehicle highway systems in transportation engineering.
Odd Spring
ECS - Department of Civil, Environmental, and Construction Engineering

TTE 6315. Traffic Safety Analysis
3(3,0) PR: TTE 5805 or TTE 5204 or C.I. Understanding crash research concepts, and identifying factors contributing to traffic crash occurrence.
Spring
ECS - Department of Civil, Environmental, and Construction Engineering

TTE 6526. Planning and Design of Airports
3(3,0) PR: C.I. Background of aviation and airport development, aircraft characteristics. Planning and design of airport components. Heliport and STOL ports and pavement and drainage design.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

TTE 6608. Algorithms and Models for Smart Cities
3(3,0) STA 5206 or C.I. Cities as complex systems, urban geo-location data collection and processing, data exploration and geo-visualization, classification techniques, urban mobility models. and urban networks.
Odd Fall
ECS - Department of Civil, Environmental, and Construction Engineering

TTE 6625. Mass Transportation Systems
3(3,0) PR: C.I. Planning, design, construction, operation, and administration of mass transportation systems.
Occasional
ECS - Department of Civil, Environmental, and Construction Engineering

TTE 6667. Discrete Choice Modeling in Transportation
3(3,0) TTE 4274 or STA 5206 (or equivalent) or C.I. Multivariate regression analysis, individual choice theory, random utility frameworks, ordered and unordered response models, maximum likelihood approaches, and recent advances in the field.
Odd Fall
ECS - Department of Civil, Environmental, and Construction Engineering

URP 6711. Sustainable Transportation Planning
3(3,0) Admission to Master of Urban and Regional Planning program or C.I. Planning for multimodal transportation, including highway/automobile, public transit, pedestrian, bicycling and rail systems, to explore the social, economic and health implications to communities.
Occasional
HPA - School of Public Administration

WST 5347. Research in Women and Gender Studies
3(3,0) PR: Graduate standing or senior standing, or C.I. To explore feminist research methodologies and investigate relationships among feminist theory, research, social change, and gender equality as experienced at the workforce in private, public and non-profit spheres.
Even Fall
CAH - Program in Women's Studies

WST 5601. Theories in Gender Studies
3(3,0) PR: Graduate standing, Gender Studies graduate certificate standing, or C.I. Foundational scholarship in gender studies, with emphasis on theoretical and interdisciplinary approaches to gender and sexuality.
Even Fall
CAH - Program in Women's Studies

WST 5619. Applied Gender Studies
3(3,0) Graduate standing or C.I. Emphasize practical applications of gender theories and research in private and public sectors (i.e., the workforce, government agencies, global contexts) to strengthen leadership skills and enable effective policy and planning.
Even Fall
CAH - Program in Women's Studies

ZOO 5456C. Ichthyology
4(2,6) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Introduction to the biology of the fishes, their classification, evolution, and life histories.
Even Fall
COS - Department of Biology

ZOO 5463C. Herpetology
4(2,4) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Introduction to the biology of the amphibians and reptiles, their classification, evolution, and life histories.
Odd Spring
COS - Department of Biology

ZOO 5475L. Field Ornithology
3(0,6) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, Certificate in Conservation Biology, PSM in Conservation Biology, or C.I. Introduction to the identification, taxonomy, natural history, and biology of birds, with emphasis on survey techniques and systematics.
Odd Fall
COS - Department of Biology

ZOO 5486. Mammalogy
4(4,0) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, PSM in Conservation Biology, or Certificate in Conservation Biology, or C.I. Study of the diversity and biology of mammals from an evolutionary perspective.
Even Spring
COS - Department of Biology

ZOO 5745C. Essentials of Neuroanatomy
4(3,3) Human/Comparative Anatomy, or Human/Animal Physiology or C.I. Fundamental concepts of both morphological and functional organization of the nervous system. Primary emphasis on human structure.
Occasional
COM - Department of Molecular and Microbiology

ZOO 5748C. Clinical Neuroanatomy
5(3,2) PR: ZOO 3733C Human Anatomy. Provides the necessary knowledge to understanding the complexities of human nervous system, its normal and pathologic functions,relevant to practice of general medicine and/or neuroscientists.
Fall
COM - Department of Molecular and Microbiology

ZOO 5749C. Clinical Neuroscience
5(3,2) PR: ZOO 3733C and ZOO 3744, or ZOO 3733C and ZOO 4743C or ZOO 5748C, or equivalents. Clinically oriented teachings of neuroscience areas including selected topics in neuropathology, neuro-oncology, neuroimmunology, neuropharmacology, and neurodiagnostics.
Spring
COM - Department of Molecular and Microbiology

ZOO 5758C. Vertebrate Histology
4(3,3) Graduate standing and college-level Human Anatomy, Human Physiology or Introduction to Histology. Microanatomical detail plus appropriate developmental and functional considerations of major cell types, primary tissues, organs, and organ systems. Survey of modern animal-tissue microtechnique.
Spring
COM - Burnett School of Biomedical Sciences

ZOO 6520. Behavioral Ecology
3(3,0) PR: Admission to the M.S. in Biology, Ph.D. in Conservation Biology, or Certificate in Conservation Biology, or C.I. Introduction to the field of Behavioral Ecology, which studies evolution of animal behavior in the wild.
Even Fall
COS - Department of Biology

ZOO 6737. Clinically Oriented Human Anatomy
4(4,6) Human Anatomy ZOO 3733 or equivalent Clinically Orientated Human Anatomy (COHA) is an advanced course focusing on integrated functional anatomy by means of problem-based learning and project-based learning.
Summer
COM - Burnett School of Biomedical Sciences