UNIVERSITY OF CENTRAL FLORIDA

1981-82
IMPORTANT NOTICE

THE DEADLINE DATES FOR APPLICATION FOR ADMISSION AND READMISSION HAVE BEEN CHANGED FOR THE FALL '81, SPRING '82, AND SUMMER '82 SEMESTERS AND ARE THEREFORE INCORRECT ON PAGES 12, 14, 15, 16 AND 17.

THE CORRECT DATES ARE AS FOLLOWS:

**FALL SEMESTER 1981**
- June 15: Last day for receipt of regular undergraduate and graduate applications
- July 17: Last day for receipt of readmission applications

**SPRING SEMESTER 1982**
- October 1, 1981: Last day for receipt of regular undergraduate and graduate applications
- November 25, 1981: Last day for receipt of readmission applications

**SUMMER SEMESTER 1982**
- AND SUMMER TERM A
  - March 15: Last day for receipt of regular undergraduate and graduate applications
  - April 5: Last day for receipt of readmission applications

**SUMMER TERM B**
- April 26: Last day for receipt of regular undergraduate and graduate applications
- May 18: Last day for receipt of readmission applications
PEGASUS was the winged horse of the muses in Greek Mythology. He carried their hopes, their aspirations, and their poetry into the skies. PEGASUS is as futuristic as tomorrow's space exploration in our solar system and into the universe beyond. The seal also bridges the gap between the humanities and space technology.

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SUMMER QUARTER 1981

MARCH 16  Last day for receipt of applications and required supporting documents from International Students
MAY 16  Last day for receipt of regular undergraduate and graduate applications and required supporting materials
JUNE 1  Last day for receipt of readmission applications
JUNE 13  Graduate record exam (at designated examination centers). Registration for examination must be made 4 weeks prior to this date
JUNE 15-18  Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised
JUNE 16  Advisement for current and former students not pre-advised
JUNE 17-18  *Registration by appointment for new and readmitted graduate, post-baccalaureate, undergraduate students. Student registration will close following the last appointment. Faculty and staff will register following the above appointments.
JUNE 22  Classes begin for Summer Quarter
JUNE 26  Last day to adjust class schedule (end of Add/Drop). Last day for refund.
JUNE 26  Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed
JUNE 26  Last day to apply for graduation for those completing requirements end of Summer Quarter
JUNE 26  Last day to change from credit to audit
JULY 3  Independence Day holiday (University-wide)
JULY 6  Classes resume
JULY 10  Deadline for withdrawal. Last day to withdraw from a course or the University
JULY 20  Last day for removing temporary student status
JULY 20  Last day to remove an "I" earned last quarter
AUGUST 7  Classes end for Summer Quarter
AUGUST 10 (NOON)  Final exam given at discretion of instructor
Grades due in Registrar's Office

*Area Campus (Brevard, Daytona Beach, and South Orlando) Registration and Add/Drop dates precede registration and vary with individual area campuses. AREA CAMPUS STUDENTS MUST CONTACT DIRECTORS OF THE APPROPRIATE CAMPUS FOR ADVISEMENT AND REGISTRATION INSTRUCTIONS.
FALL SEMESTER 1981

MAY 18  Last day for receipt of applications and required supporting documents from international students
JULY 17  Last day for receipt of regular undergraduate and graduate applications and required supporting materials
AUGUST 3  Last day for receipt of readmission applications
AUGUST 17-19  Orientation and advisement for new freshmen and transfer students not pre-advised
AUGUST 17-19  Advisement of current and former students not pre-advised
AUGUST 17-20  *Registration by appointment for the following student classification: Graduate, current undergraduate, readmitted undergraduate, new undergraduate and post-baccalaureate. Faculty and staff will register following the above appointments. Registration will close after the last appointment
AUGUST 24  Classes begin for Fall Semester
AUGUST 28  Last day to adjust class schedule (end of Add/Drop). Last day for refund.
AUGUST 28  Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed
AUGUST 28  Last day to apply for graduation for those completing requirements end of Fall Semester
AUGUST 28  Last day to change from credit to audit
SEPTEMBER 7  Labor Day holiday (University-wide)
SEPTEMBER 8  Classes resume
SEPTEMBER 24  Last day for removing temporary student status
OCTOBER 16  Deadline for withdrawal. Last day to withdraw from a course or the University
NOVEMBER 6  Homecoming. Classes dismissed 12:00 noon to 1:00 p.m.
NOVEMBER 11  Veterans' Day Holiday (University-wide)
NOVEMBER 12  Classes resume

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NOVEMBER 20  Last day to remove an "I" earned last quarter
NOVEMBER 26-27  Thanksgiving Holidays (University-wide)
NOVEMBER 30  Classes Resume
DECEMBER 11  Classes end for Fall Semester
DECEMBER 14-17  Final examination period
DECEMBER 18  Final corrected dissertation copies due in Library.
DECEMBER 17  Commencement
DECEMBER 18  Grades due in Registrar's Office
DECEMBER 21 (NOON)  Christmas Holidays begin (students)
DECEMBER 21  *Area Campus (Brevard, Daytona Beach, and South Orlando) Registration and Add/Drop dates precede registration and vary with individual area campuses. AREA CAMPUS STUDENTS MUST CONTACT DIRECTORS OF THE APPROPRIATE CAMPUS FOR ADVISEMENT AND REGISTRATION INSTRUCTIONS.

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<td>29 30</td>
<td>27 28 29 30 31</td>
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SPRING SEMESTER 1982

**OCTOBER 1**
Last day for receipt of applications and required supporting documents from International Students

**NOVEMBER 25**
Last day for receipt of regular undergraduate and graduate applications and required supporting materials

**DECEMBER 17**
Last day for receipt of readmission applications

**JANUARY 4-5**
Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised

**JANUARY 4-5**
*Registration by appointment for new and readmitted graduate, post-baccalaureate, undergraduate students. Student registration will close following the last appointment. Faculty and staff will register following the above appointments

**JANUARY 6**
Classes begin for Spring Semester

**JANUARY 13**
Last day to adjust class schedule (end of Add/Drop), Last day for refund

**JANUARY 13**
Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed

**JANUARY 13**
Last day to apply for graduation for those completing requirements end of Spring Semester

**JANUARY 13**
Last day to change from credit to audit

**JANUARY 15**
Martin Luther King Day. Classes dismissed

11:00 a.m. to 1:00 p.m.

**FEBRUARY 4**
Last day for removing temporary student status

**MARCH 3**
Deadline for withdrawal. Last day to withdraw from a course or the University

**MARCH 4-5**
Spring Holidays

**MARCH 8**
Classes resume

**APRIL 7**
Last day for removing an "I" earned last semester

**APRIL 20**
Final corrected dissertation copies due in Library.

**APRIL 23**
Classes end for Spring Semester

**APRIL 26-29**
Final examination period

**APRIL 30**
Commencement

**MAY 1 (NOON)**
Grades due in Registrar's Office

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<td>APRIL 26</td>
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<td>MAY 4</td>
<td>Advisement of current and former students not pre-advised</td>
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<td>MAY 5-6</td>
<td>*Registration by appointment for new and readmitted graduate, post-baccalaureate, undergraduate students. Student registration will close following the last appointment. Faculty and staff will register following the above appointments</td>
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<td>MAY 14</td>
<td>Last day to adjust class schedule (end of Add/Drop). Last day for refund.</td>
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<td>MAY 14</td>
<td>Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed</td>
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<td>MAY 14</td>
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<td>JUNE 1</td>
<td>Classes resume</td>
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<td>JUNE 7</td>
<td>Last day for removing temporary student status</td>
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<td>JUNE 18</td>
<td>Deadline for withdrawal. Last day to withdraw from a course or the University</td>
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<tr>
<td>JULY 5</td>
<td>Independence Day Holiday (University-wide)</td>
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<tr>
<td>JULY 6</td>
<td>Classes resume</td>
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<td>JULY 16</td>
<td>Last day to remove an &quot;I&quot; earned last semester</td>
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<tr>
<td>JULY 30</td>
<td>Classes end for Summer Semester. Final exam given at discretion of instructor</td>
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<td>AUGUST 2 (NOON)</td>
<td>Final corrected dissertation copies due in Library</td>
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*Area Campus (Brevard, Daytona Beach, and South Orlando) Registration and Add/Drop dates precede registration and vary with individual area campuses. AREA CAMPUS STUDENTS MUST CONTACT DIRECTORS OF THE APPROPRIATE CAMPUS FOR ADVISEMENT AND REGISTRATION INSTRUCTIONS.*
SUMMER “A” TERM 1982 TENTATIVE

FEBRUARY 3  Last day for receipt of applications and required supporting documents from International Students
APRIL 5  Last day for receipt of regular undergraduate and graduate applications and required supporting materials
APRIL 28  Last day for receipt of readmission applications
MAY 3-5  Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised
MAY 4  Advisement for current and former students not pre-advised
MAY 5-6  *Registration by appointment for new and readmitted graduate, post-baccalaureate, undergraduate students. Student registration will close following the last appointment. Faculty and staff will register following the above appointments
MAY 10  Classes begin for Summer “A” Term
MAY 14  Last day to adjust class schedule (end of Add/Drop). Last day for refund
MAY 14  Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed
MAY 14  Last day to apply for graduation for those completing requirements end of Summer Semester
MAY 14  Last day to change from credit to audit
MAY 28  Deadline for withdrawal. Last day to withdraw from a course or the University
MAY 31  Memorial Day Holiday (University-wide)
JUNE 1  Classes resume
JUNE 1  Last day for removing temporary student status
JUNE 16  Last day to remove an “I” earned last semester
JUNE 18  End of Summer “A” Term, classes and exams
JUNE 21 (NOON)  Grades due in Registrar’s Office

*Area Campus (Brevard, Daytona Beach, and South Orlando) Registration and Add/Drop dates precede registration and vary with individual area campuses. AREA CAMPUS STUDENTS MUST CONTACT DIRECTORS OF THE APPROPRIATE CAMPUS FOR ADVISEMENT AND REGISTRATION INSTRUCTIONS.
SUMMER "B" TERM 1982 TENTATIVE

MARCH 26
Last day for receipt of applications and required supporting documents from International Students

MAY 18
Last day for receipt of regular undergraduate and graduate applications and required supporting materials

MAY 28
Last day for receipt of re-admission applications

JUNE 15-16
Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised

JUNE 16
Advisement of current and former students not pre-advised

JUNE 17
*Registration by appointment for new and readmitted graduate, post-baccalaureate, undergraduate students. Student registration will close following the last appointment.

JUNE 21
Classes begin for Summer "B" Term

JUNE 25
Last day to adjust class schedule (end of Add/Drop).

JUNE 25
Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed

JUNE 25
Last day to apply for graduation for those completing requirements end of Summer "B" Term

JUNE 25
Last day to change from credit to audit

JULY 5
Independence Day Holiday (University-wide)

JULY 6
Classes resume

JULY 9
Last day to remove an "I" earned last semester

JULY 9
Deadline for withdrawal for Summer "B" Term students only. Last day to withdraw from a course or the University

JULY 19
Last day for removing temporary student status

JULY 30
End of Summer "B" Term, classes and exams

AUGUST 2 (NOON)
Grades due in Registrar’s Office

*Area Campus (Brevard, Daytona Beach, and South Orlando) Registration and Add/Drop dates precede registration and vary with individual area campuses. AREA CAMPUS STUDENTS MUST CONTACT DIRECTORS OF THE APPROPRIATE CAMPUS FOR ADVISEMENT AND REGISTRATION INSTRUCTIONS.

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UNIVERSITY OF CENTRAL FLORIDA

The University of Central Florida, a member institution of the State University System, was formerly Florida Technological University. The name was changed by action of the Florida Legislature on December 6, 1978.

STATEMENT OF PURPOSE

The University of Central Florida serves the people of Florida by providing undergraduate and graduate education in most general areas of study and in specifically selected technological and professional disciplines.

Baccalaureate degree programs are offered in arts and sciences, business administration, education, engineering, liberal studies and health. Master's degree programs are approved in several areas of the University. Doctoral programs are available in education through an agreement with Florida Atlantic University and in engineering through an agreement with the University of Florida.

In addition to offering a broad academic program on campus, UCF offers off-campus credit courses in locations throughout Central Florida. Off-campus credit courses are listed in the quarterly class schedule published by the University and are generally taught by regular faculty members. Non-credit conferences, institutes, seminars, workshops and short courses are scheduled both on and off campus to meet the educational needs of business, government, professional, and other groups from throughout Florida and the nation.

INSTITUTIONAL PHILOSOPHY

The University of Central Florida philosophy is based upon two tenets: ACCENT ON THE INDIVIDUAL and ACCENT ON EXCELLENCE. The University believes in the individual worth of each person and especially encourages the RESPONSIBLE INDIVIDUAL who strives for EXCELLENCE in every activity.

Research is considered an important part of advanced study and UCF provides students with opportunities for research projects and independent study. Many projects involve community service and opportunities for students to experience real situations while receiving individual guidance from faculty.

The University of Central Florida, in order to serve the community better, makes higher education easily available to the citizens of east-central Florida by operating off campus centers and offering off campus credit courses to citizens of the area.

EAST CENTRAL FLORIDA AREA

UCF is located in the East Central Florida region with a population estimated at 1.3 million. The area is well endowed with a rich heritage of cultural, educational, industrial, and recreational activities. Cultural activities include a symphony orchestra, civic theatre, dinner theatres, art galleries, and museums. The beauty of the Orlando area is evidenced through its numerous parks and flower gardens. In addition to UCF, educational needs of the area are served through quality public school systems, public community colleges, and several privately supported colleges and schools. Recreational opportunities abound in the Orlando area.

THE CAMPUS

The campus of UCF, located 13 miles east of downtown Orlando, consists of 1227 acres of land; much of which is covered with pine, palm, cypress, cedar, and oak trees. Lake Claire, covering 40 acres and Lake Lee, covering 14 acres, contribute to the natural beauty of the campus. Since campus construction began in 1966, approximately $35 million has been invested in facilities and equipment including the library, classroom build-
ings, laboratories, residence halls, and student facilities. The childcare center was built with funds contributed through the Edyth Bush Charitable Foundation of Winter Park and UCF Student Government. Recreational facilities include lighted tennis and handball courts, a flag football-soccer field, a swimming pool, a golf driving range with putting greens, volleyball courts, and a baseball field. The campus currently serves approximately 10,000 students.

UCF's four two-story residence halls accommodate 414 students—198 men and 216 women. Two of the residence halls are for women and two are for men. Each suite consists of double bedrooms (a limited number of singles), common living room and bath. Each suite is equipped with functional furnishings, in keeping with the living-study area design, central heat, air-conditioning and maid service. Each hall has laundry facilities, a vending machine room and a common social/study lounge for residents' use. For more detailed information on campus housing please write to Director of Housing, University of Central Florida, P.O. Box 25000, Orlando, Florida 32816.

UCF AREA CAMPUSES

In addition to the academic programs offered on the main campus in Orlando, Florida, the University of Central Florida offers a number of upper division programs and graduate level courses at Area Campuses in Cocoa and Daytona Beach as well as at a campus located in the southern part of Orlando. These are the same programs and courses offered at the main (Orlando) campus and carry the same credit. Each Area Campus is staffed with a director, counselors, and support personnel. Contact the Area Campus of your choice for information as to present and projected course offerings and programs of study.

UCF BREVARD CAMPUS
1519 Clearlake Road
Cocoa, Florida 32922
(305) 632-4127

UCF DAYTONA BEACH CAMPUS
215 South Clyde Morris Boulevard
Daytona Beach, Florida 32014
(904) 255-7423

UCF SOUTH ORLANDO CAMPUS
7300 Lake Ellenor Drive
Orlando, Florida 32809
(305) 855-0881

ACCREDITATION

The graduate and undergraduate programs of the University are accredited by the Southern Association of Colleges and Schools, the official regional accrediting agency for educational institutions in the South.

In addition to the regional accreditation agencies, there are a number of scientific, professional, and academic bodies conferring accreditation in specific disciplines and groups of disciplines. Currently, the following areas have been approved by the agencies indicated. The College of Business Administration is accredited at the graduate and undergraduate level by the American Assembly of Collegiate Schools of Business (AACSB); Engineering Mathematics and Computer Systems, Environmental, Electrical, Industrial, and Mechanical Engineering options and Design, Electronics, Environmental Control, and Operations Technology options in the College of Engineering by the Accreditation Board for Engineering and Technology (ABET); within the College of Health: Medical Record Administration by the Council on Allied Health Education Accreditation, Radiologic Sciences by the Council on Allied Health Accreditation; and, Respiratory Therapy by the American Registry of Respiratory Therapists (ARRT). All teacher education programs are fully accredited by the Florida State Department of Education.
UCF is listed in Report of Credit Given by Educational Institutions with an “A” Rating which means "Transcript of record given full value." The handbook, published by the American Association of College Registrars and Admission Officers, shows the acceptability of transfer credits based upon their (AACRAO) evaluation.

UNIVERSITY OF CENTRAL FLORIDA FOUNDATION, INC.
Chartered in 1968, the UCF Foundation, Inc. is a non-profit, tax-exempt corporation receiving and disbursing private gifts for the betterment of the University as a whole. Its primary function is that of assisting the University financially in the student financial aid program, scholarships, and in institutional development.

Through the leadership of a 50-member Board of Directors, the Foundation encourages, solicits, receives, and administers gifts and bequests of property and funds for scientific, educational and charitable purposes. All for the advancement of the University of Central Florida and its objectives.

The Foundation promotes and supports education by providing funds which are not received from public sources.

Contributions are deductible by donors as provided in Section 170 of the Internal Revenue Code.

UNIVERSITY PRESSES OF FLORIDA
The University of Florida is host to the state university system's scholarly publishing facility, University Presses of Florida. The goals of the systemwide publishing program implemented by University Presses of Florida are expressed in Board of Regents' policy: "... to publish books, monographs, journals, and other types of scholarly or creative works. The Press shall give special attention to works of distinguished scholarship in academic areas of particular interests and publish original works by
state university faculty members, but it may also publish meritorious works originating elsewhere and may republish out-of-print works."

The purpose of the University Presses of Florida is to encourage, seek out, and publish original and scholarly manuscripts which will aid in developing the Universities as a recognized center of research and scholarship.

University Presses of Florida is a member of the Association of American University Presses and of the Association of American Publishers, Inc.

Students and members of the faculty and staff are cordially invited to visit the Press offices at 15 N.W. 15th Street, Gainesville, Florida.

UNIVERSITY LIBRARIES
Director: Lynn W. Walker, LR 427, Phone 275-2564
Associate Director: Orlyn B. LaBrake, LR 427, Phone 275-2564
Professional Staff: Melvon L. Ankeny, Elaine T. Bazzo, Leonie Y. Black, Elba C. Growdahl, Karen A. Hitchcock-Mort, Margaret A. Hogue, Mary Helen Howard, Phyllis J. Hudson, Laurie S. Linsley, Elizabeth W. Lloyd, Cheryl G. Mahan, Peter C. Rossi, Norbert St. Clair, June S. Stillman, Judith E. Young

The University Libraries provide materials and services to support the instructional and research needs of the university. The collection now numbers some 350,000 volumes and about 5,000 periodical, newspaper and serial publications placed on open shelves to encourage browsing. The library is a depository for U.S. and Florida state documents.

The circulation desk and reserve materials are located on the first floor. The reference collection, state and federal documents and interlibrary loan are on the second floor. On the third floor are periodicals, microforms, audio-visual materials, material and technical processing departments. The fourth floor contains the general book collection, special collections and phonograph records with listening equipment. Study areas and photocopying machines for student and faculty use are located on all floors.

During the school term the library operates on a full schedule of hours, including evenings and weekends. During vacation periods, a shortened schedule is maintained. Librarians are available for assistance and advice in the use of the library, its materials and services throughout library hours. Arrangements may be made for class or small group instruction. Interlibrary loan service is available to faculty, staff and students to supply materials not available in the library's collections.

Special services are provided for the handicapped. The microfiche catalog is made available to mobility-impaired students attending UCF and these students may check out microfiche readers for home use. Using the microfiche catalog, students can determine the books they need, and a call to the library will bring books to them at a convenient location on campus. The Florida Bureau of Blind Services has deposited talking book machines and cassette tape players, a talking calculator, and other similar equipment, in the library for the use of blind or partially-sighted students, and the library staff assists these students in reference and research projects.

In an effort to have library services within reach of all its students, the UCF library maintains small collections of about 2,000 books at the university's campuses in Daytona Beach and South Orlando. Subjects of the collections vary depending on the courses offered at each center. Copies of the Main Library's Card Catalog on microfiche are provided at each of the campuses. These catalogs and a courier service give the campuses access to the collections of the main library. Students at the Brevard campus receive a full range of library services from the Brevard Community College library.

INSTRUCTIONAL RESOURCES
Director: Robert L. Arnold, LR 142, Phone 275-2571.
Assistant Director: David W. Retherford

The primary purpose of Instructional Resources is to improve instruction. To meet both the academic and administrative needs of the University, Instructional Resources provides the faculty with graphic, photographic, radio and television production, a full range of audio visual support services; and a wide range of instructional development assistance and consultation. Instructional Resources also administers the Language Lab.
and University Learning Center where several audio and video play-back devices are available to students and faculty.

INTERCOLLEGIATE ATHLETICS
Director: Jack O'Leary, ED 149, Phone 275-2256.

Programs in Intercollegiate Athletics are coordinated by varsity coaches and staff under the general supervision of the Director of Athletics.

The University of Central Florida is a member of the National Collegiate Athletic Association (NCAA), Division II, Region 3 (except football, which is Division III) and participates in the Sunshine State Conference. The women athletes participate, observing the policies and rules of the Association for Intercollegiate Athletics for Women (AIAW), Division II, Region 3. Varsity athletic contests at the University of Central Florida are governed by the rules of play published by NCAA and AIAW, and all established eligibility standards are observed.

Our current varsity sports include baseball, basketball, cross country, golf, football, soccer, tennis and wrestling for men. The women's sports include basketball, cross country, golf, softball, soccer, tennis and volleyball.

UNIVERSITY BOOKSTORE
The University Bookstore, located in the Student Services Building, carries required textbooks, supplemental books, and associated supplies for all UCF courses. In addition, a complete line of school and art supplies, sundries, paperbacks, gifts, and other items of interest are available. A Customer Service Desk is provided for special orders such as class rings. The Bookstore buys "used" textbooks at the end of each semester. Student I.D. cards are required for identification.
STUDENT AFFAIRS

INTRODUCTION
The Associate Vice President for Student Affairs is concerned with the education and welfare of students as affected by non-classroom aspects of the total University program; therefore, he coordinates and supervises the non-academic areas of student life. His goals include creating a favorable environment for student learning; personalizing the education process; encouraging self-discipline, self-direction, and purpose on the part of the individual students; and fostering respect and brotherhood among students and faculty. Assisted by members of his staff, the Associate Vice President for Student Affairs administers programs involving orientation, personal counseling, housing, financial aids, health services, placement, student government, student organizations, Veterans Affairs and special activities. Students are invited to consult the staff of Student Affairs concerning any aspect of campus life.

ORIENTATION
The purpose of orientation at the University of Central Florida is to acquaint new students with the various academic curricula, to provide academic advisement, and to assist them in understanding college life. All new students will be given important information by members of the faculty, administration, and the student body which can assist them in the achievement of their personal academic goals. Information is mailed to students indicating the date, time and place for their orientation session. The Mathematics Placement Test is given for those new students who are required to take it.

HOUSING POLICY
I. Regularly enrolled single students paying registration fees for a minimum of nine semester hours may apply for assignment to University residential units. Priority of assignment is given to current residents and new students admitted in good standing. Any single student applicant who has been admitted to the University may request and submit a Housing application on which he/she requests Housing and Food Service for a specific quarter. Priority of room assignments is based on the date of receipt of the completed application in the Housing Office. Applicants should CAREFULLY READ the application before submitting it with the $25 pre-payment to the Housing Office.

II. ALL HOUSING CONTRACTS ARE FOR HOUSING AND FOOD SERVICE, combining room and board, and requiring each resident student to participate in one (1) of several available meal plans.

INTERNATIONAL STUDENT SERVICES
The International Student Office serves as a clearing-house for international student affairs, and as a focal point for international student concerns. Its central role is to assist students from other lands in adjusting to the changing lifestyle and study habits in a new and strange environment so as to assure a genuine achievement of their educational goals and meaningful living experience in the United States. A wide range of special services are, therefore, provided to newly arrived students: assistance in locating off-campus apartments and in banking, counseling on personal, financial, academic and cross-cultural communication matters, liaison with the Immigration and Naturalization Service, social activities and community visits. Further information may be obtained from the International Student Office, Administration Building, Room 225.

OFFICE OF AREA CAMPUSES SERVICES, EVENING STUDENT SERVICES, and ACADEMIC PEER ADVISEMENT
The Office of Area Campus Services maintains contact with the directors of the area campuses in Brevard, Daytona Beach, and South Orlando as the official liaison between Student Affairs and the area campuses. The office ensures student services are pro-
vided and that communication between the main campus and area campuses is main-
tained.

The Evening Student Services Office is open Monday-Thursday evenings in Admini-
stration Building 282 from 5 p.m.-9 p.m. All students are encouraged to either visit the
office or call 275-2751. Problems are resolved in the office or referred to the appropriate
campus office for action.

The Academic Peer Advisement Team consists of 32 outstanding sophomores,
juniors, seniors, and graduate students selected each spring to assist faculty with the
academic advisement of entering freshmen for the academic year. The central office is
located in Administration Building 282, extension 2751.
THE OFFICE OF RESEARCH AND SPECIAL PROGRAMS

The Office of Research and Special Programs solicits and coordinates sources of funding and the acceptance and administration of contracts, grants, and agreements for research and special programs for the Division of Student Affairs. The office provides data for updating current student activities and policies and works with the Division to aid in offering special programs for students.

STUDENTS HEALTH SERVICE

The University is concerned with the physical and emotional health of the student as well as the promotion of individual and general health in the University community. A Student Health Service is maintained on an outpatient basis for routine and emergency health needs, to promote health education, and to protect the Student Body from communicable diseases. The Service is staffed by medical doctors and registered nurses when classes are in session. Medical care in the students' living quarters is not provided. Every health fee paying student is entitled to the benefits outlined in the Health Service brochure. Except for Workman's Compensation cases, faculty and staff will be seen only for emergency first aid on a fee for service basis.

Blood is available for students, staff, faculty and their immediate families by notifying the Student Health Services of such need. Medical records are confidential communications and will be treated as such in so far as the law permits.

In the event of an on-campus emergency, contact University Police for assistance to the Student Health Service.

STUDENT FINANCIAL AID

GENERAL INFORMATION

Student Financial Aid programs at the University of Central Florida are designed to provide assistance to students in the form of loans (long and short-term), grants, scholarships and part-time on-campus student employment. The philosophy of the University is to assist students who, for the lack of financial assistance, would be unable to attend the University.

The application procedure varies according to the classification of the aid program; i.e., whether or not the program requires evidence of financial need. Please contact the Office of Financial Aid for additional information.

I. PROGRAMS BASED ON FINANCIAL NEED

Programs which DO HAVE FINANCIAL NEED as their prerequisite are:

- NATIONAL DIRECT STUDENT LOAN
- STUDENT REGENT FEE LOAN
- PELL (BASIC) GRANT (FORMERLY BASIC EDUCATIONAL OPPORTUNITY GRANT)
- FLORIDA STUDENT ASSISTANCE GRANT
- SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT
- COLLEGE WORK-STUDY PROGRAM
- INSTITUTIONAL WORK-STUDY PROGRAM

To qualify for these programs, students must complete an Institutional Aid Application annually, as well as the College Scholarship Service Financial Needs Analysis or the American College Testing Form. Awards for these particular programs will be made beginning April 1, each year, and will continue until funds are exhausted.

II. PROGRAMS NOT EXCLUSIVELY BASED ON NEED

Programs which DO NOT HAVE FINANCIAL NEED as their prerequisite are:

- GUARANTEED STUDENT LOAN
- FLORIDA GUARANTEED STUDENT LOAN PROGRAM
- SOUTHEAST RENEWAL LOAN PROGRAM
- LAW ENFORCEMENT EDUCATION LOAN
- OTHER PERSONAL SERVICES
- SHORT-TERM LOAN
- NON-FLORIDA TUITION WAIVERS

III. SCHOLARSHIPS

Scholarships are awarded to individuals according to their academic achieve-
ment and their high probability of success in their chosen careers. Quite often financial need is used as an additional criterion.

INSTITUTIONAL SCHOLARSHIPS
COLLEGE SCHOLARSHIPS
AGENCY SCHOLARSHIPS
NATIONAL AND STATE SCHOLARSHIPS
State scholarships are funded by the state in which you reside. For information on the State of Florida Scholarships write to the Florida Student Financial Assistance Commission, Department of Education, Tallahassee, Florida 32301.

IV. GRADUATE AID
Aid for graduate students through the Office of Student Financial Aid is limited to part-time employment and selected loan programs. Application for other aid should be made to the head of the department of the student's major or the Dean of Graduate Studies.

V. AWARD NOTICE PROCEDURE
In programs requiring evidence of financial need, Financial Aid staff members will review the financial documents as well as the applications and make recommendations for the coming academic year.

An Official Award Notice is sent to each individual student eligible for an award. The Notice provides the dollar amount and the term the funds are to be disbursed. Each student will receive a white and yellow copy of the Official Award Notice. The white copy should be returned to the Office of Student Financial Aid and the yellow copy retained to be presented to the Cashier's Office in order to pick up the award check.

VI. FUND DISBURSEMENT
Funds are disbursed by the Cashier's Office, Administration Building, Room 110, on a semester basis upon presentation of a valid Registration/Fee Statement.

COOPERATIVE EDUCATION AND PLACEMENT

CAREER PLANNING AND PLACEMENT
Campus interviews and employment contracts are essential aspects of the Placement Center. The provision of these services requires the development of student personnel files and resumes, therefore, seniors are urged to register with the Placement Center two semesters prior to graduation.

All students are invited to take advantage of the career counseling services offered by the Center, and to avail themselves of off-campus, part-time, and summer employment opportunities.

COOPERATIVE EDUCATION
The cooperative program offers an educational strategy for baccalaureate or graduate degree-seeking students who wish to blend theory with practice by combining traditional campus education with study-related work experience.

Co-op students alternate semesters of classroom study with equal periods of paid employment in government, industry, or business. The work assignments provide qualified students an opportunity to gain career experience in their major fields of study on job locations that extend not only throughout Florida but also nationwide.

For further information write to Cooperative Education Program, University of Central Florida, Orlando, Florida 32816; or visit Suite 124, Administration Building. Telephone (305) 275-2314.

UNIVERSITY COUNSELING AND TESTING CENTER
The University Counseling and Testing Center offers a professional staff of counselors to aid students in selecting vocational-educational objectives, overcoming learning difficulties, solving problems of personal-social adjustment, and dealing with marital or other relationship problems. A full range of tests is available along with an occupational library.

Any student may request the assistance of the Center whenever the need occurs. Students may, for example, desire increased understanding of themselves, their relationships with others, or seek to gain additional satisfaction from their learning experiences.
Tests are often used to help the individual student evaluate personal interests, aptitudes, and abilities. All aspects of counseling and testing are confidential.

STUDENT ACTIVITIES
Personal development may, in part, be enhanced through informed, experienced, dedicated participation in the University and community. Frequently, activities are referred to as "extracurricular," but at the University of Central Florida student activities are regarded as a part of the total educational program, a supplement to the individual student's academic program. The University, through student cooperation and with the assistance of student organizations, sponsors a variety of cultural and entertainment programs which will contribute to the student's social, cultural, recreational, and academic development. Additionally, ample opportunity to become a member of occupational, professional, social, and honorary organizations is provided. It is the desire of the University to appeal to the interests of students and to provide opportunities for students to become acquainted with fellow students and faculty members through participation in student activities.

STUDENT GOVERNMENT
The purpose of the Student Government at the University of Central Florida is to represent student opinion; advance the cause of students both socially and academically; promote communication, cooperation and understanding among students; and to insure that Student Government shall continue to be used as a democratic instrument of change at UCF. Additionally, Student Government is authorized to determine the allocation of the Activity and Service Fee.

The Student Government of UCF represents the interests of Students through its executive and legislative and judicial branches. The Student Senate is composed of representatives from every college. In addition to these elected offices, there are many openings available for appointed offices or on Student Government committees. By active participation in Student Government, or by voicing opinions and ideas through representative legislators, a student may gain valuable experience in the democratic processes—its freedoms and responsibilities. Students interested in working with the Student Government may obtain information from the Student Government offices located in the Student Center. Student Government has many services available to students including discount movie and dinner theatre tickets, babysitting referral, nexus phone system, consumer affairs, carpool, legal aid, and dental aid.

STUDENT CENTER/STUDENT UNION
Student life at the University of Central Florida emanates from the Student Center and Student Union buildings. These facilities serve students, faculty, staff, University patrons, alumni, and guests with their many programs, services and gathering places. The Student Center is funded by activity and service fees.

The Student Center contains food service facilities, an auditorium, conference and meeting rooms, art gallery, game room, arts and crafts center and lounge areas. Offices for Student Government, Student Organizations, Student Center, Housing and Veteran's staff are housed in the Student Center, which is located southeast of the residence halls.

The new Student Union/Bookstore is located northeast of the Library and contains the University bookstore, food service facilities, and lounge/meeting rooms.

OFFICES OF DEAN AND ASSOCIATE DEAN OF STUDENTS
Students are urged to take advantage of the many services and educational programs available beyond the classroom. These services and programs are provided to facilitate learning and supplement academic instruction. The Dean of Students and Associate Dean of Students are available to help students in their attempts to become familiar with these services and activities and to become involved in educational experiences beyond the classroom. The Dean of Students and Associate Dean of Students plan and assist in the development of University programs that provide for the personal, social, and academic adjustment of students. They counsel students for personal, academic, financial and social problems, and as necessary refer students to specialized,
professional services. The Deans are the primary contact for students seeking information or assistance in non-academic areas of university operations.

HANDICAPPED STUDENT SERVICES
The Office of Handicapped Student Services provides information and orientation to campus facilities and services, assistance with handicapped parking permits, counseling, referral to campus services, and assistance with registration for students who are handicapped.

Services are available to students whose disabilities include, but are not limited to, mobility impairment, visual impairment, hearing impairment, manual dexterity impairment, speech impairment, specific learning disability (such as dyslexia), epilepsy, diabetes, or mental or psychological disorder.

Students who have a disability or handicap which may or may not require special assistance are requested to voluntarily contact the Office of Handicapped Student Services. All information is confidential and will be used only to assist the student. This information will in no way be used to deny any rights to that student at the University of Central Florida.

Information and assistance are available for faculty members working with students who are handicapped.

A deaf person owning a TDD (Telecommunications Device for the Deaf) can secure information from Special Services staff members by calling (305) 275-2116.
SPECIAL SERVICES

Services rendered under The Special Services Program are designed to assist students who have academic potential, but who may lack adequate secondary school preparation or who may have special circumstances hindering their academic success. Special Services also arranges for and provides academic, career and personal counseling. In addition, the Program renders referral to outside agencies that might help students resolve personal and other non-academic problems related to academic success. The goal of the Program is the retention and graduation of students who need this kind of support.

CREATIVE SCHOOL FOR CHILDREN—An Educational Research Center for Childhood Development

The school provides an educational program, including kindergarten, for children 2 through 5 years old. The daily program is planned and executed by Florida certified teachers. The program provides a wide variety of experiences in art, music, language, motor skills, science, math, social studies, perceptual development, socialization and self discovery. Planned and spontaneous field trips and special family programs are a part of the yearly schedule. Experiences in observation and training in academic areas are also made available to University students.

The school conducts a Summer Day Camp for Elementary School children during the summer semester.

CLASSROOM RESPONSIBILITY

Students are responsible for maintaining a classroom decorum appropriate to the education environment. When the conduct of a student or group of students varies from acceptable standards to such an extent that normal classroom procedures are interfered with, the instructor has the authority to remove the offending party from the room.

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 Regents. The breach or violation of any of these laws or regulations may result in disciplinary action.

When a student is involved in an offense resulting in criminal charges, prior to his admission, the circumstances of the case may be reviewed by the appropriate Student Affairs Committee to consider the student's eligibility for admission to the university as well as participation in extracurricular activities.

CONFIDENTIALITY OF STUDENT RECORDS

The University policy which governs the confidentiality and access of student records is provided in the student handbook, A Guide To Knight Life. The policy explains in detail the procedures to be used by the institution for compliance with the Family Educational Rights and Privacy Act of 1974 as amended. Copies of the policy may be obtained from the Office of Student Affairs. The Office of Student Affairs also maintains a directory of records which lists all educational records maintained on students by the University.

OFFICE OF VETERANS' AFFAIRS

The Office of Veterans' Affairs is a "one stop" center for students who are utilizing veterans' educational benefits in order to further their education. The Office has a professional staff augmented by student veterans to assist in providing information concerning entitlements, filing claims to the Veterans Administration, and certifying enrollment at the University. The office also provides counseling for personal and academic problems as well as referral to various agencies in the community. Veterans must be certified through the Office of Veterans' Affairs to receive VA educational benefits. The Office monitors veterans' academic progress on a continuous basis.

All veterans and dependents are urged to contact the Office early in the process of applying for admission to UCF.
VETERANS' BENEFITS

Veteran-students eligible to receive VA educational benefits must make initial contact with the Veterans' Certification Office.

Undergraduates must carry at least twelve (12) semester hours for full VA benefits, nine (9) semester hours for three-fourths VA benefits and six (6) semester hours for one-half VA benefits. Five (5) semester hours or less will be reimbursed to the veteran at cost of instruction only. Those students with an undergraduate degree who are classified as post baccalaureate must meet the same criteria as undergraduates. Veteran-students fully accepted in a graduate degree-seeking program are required to carry six (6) semester hours for full benefits, four (4) to five (5) semester hours for three-fourths, and three (3) semester hours for one-half time.

Veterans intending to enroll in a dual program may have the option to receive VA benefits. You must contact the Veterans' Affairs Office if you choose this option.

Veterans on co-op status may choose to draw VA benefits for their period of eligibility as follows. There are two programs: the "Institutional" and the "Cooperative."

1. The Institutional
   Veterans who select educational assistance in this program receive their monthly VA benefit payments during on-campus enrollment semesters the same as eligible veterans not on co-op status. However, VA benefit eligibility ceases during off-campus co-op semesters unless concurrent credit hour enrollment is maintained.

2. The Cooperative
   Veterans who choose this program receive educational assistance at the co-op rate. While this rate does not extend eligibility time, it does pay approximately 80 percent of their entitled monthly VA benefits during both on-campus enrollment semesters and off-campus co-op semesters without concurrent credit hour enrollment. In this program, however, veterans must enroll for at least 12 credit hours during on-campus semesters.

RECREATIONAL SERVICES

Recreational Services offers a variety of sports and recreational opportunities to students, faculty and staff members of the University. Included in the program are Intramural Sports leagues and tournaments, coed sports, organized recreation and fitness opportunities, unstructured open recreation and competitive sports clubs.

The sports activities range from the traditional flag football, basketball, soccer, golf and bowling to Ultimate (Frisbee Football), innertube waterpolo, floor hockey and a Turkey Trot. For the fitness minded we have a physical fitness class, a Rec Milers Club and ample equipment which may be checked out and used on the University recreational facilities.

A handbook which provides full information, rules and regulations on all activities is available from the Office of Recreational Services.
ADMISSION PROCEDURES

APPLICATION DEADLINE

Students are encouraged to apply several months in advance, and applications will be accepted up to a year prior to the start of the term desired. The application deadline date for each term is approximately five weeks prior to the start of the term. Please consult the catalog calendar for the exact date.

FLORIDA RESIDENCE

1. For the purpose of assessing registration and tuition fees, a student shall be classified as a “Florida” or “non-Florida” student.
   (a) A “Florida student” is a person who has domicile in and who shall have resided in the state of Florida for at least twelve (12) consecutive months immediately preceding the first day of classes of the academic term in which the student enrolls. In determining residency, the university may require evidence such as voter registration, driver’s license, automobile registration, location of bank account, rent receipts or any other relevant materials as evidence that the applicant has maintained continuous residency. Physical presence for the entire twelve-month period of a student with a long history or family history of Florida residence need not be required so long as the conduct of the student, taken in total, manifests an intention to make Florida his or her permanent dwelling place. If such student is a minor, it shall mean that the parent or parents, or legal guardian of the student shall have domicile in and have resided in the state of Florida for the period stated above. “Florida student” classification shall also be construed to include students who hold an immigration and Naturalization Form 1-151, Resident Alien Registration Receipt Card, or Cuban Nationals or Vietnamese Refugees who are considered as Resident Aliens, provided such students meet the residency requirement stated above and comply with subsection (2) below. The burden of establishing facts which justify classification of a student as a resident and domiciliary entitled to “Florida student” registration rates is on the applicant for such classification.

   (b) In applying this policy:
   1. “Student” shall mean a person admitted to the institution, or a person allowed to register at the institution on a space available basis.
   2. “Minor” shall mean a person who has not attained the age of 18 years, and whose disabilities of minority have not been removed by reason of marriage or by a court of competent jurisdiction.
   3. “Domicile” for fee paying purposes shall denote a person’s true, fixed, and permanent home and place of habitation. It is the place where the applicant lives and remains and to which he expects to return when he leaves, without intent to establish domicile elsewhere.
   4. “Parent” shall mean a minor’s father or mother, or if one parent has custody of a minor applicant, it is the parent having court assigned financial responsibility for the education of the student; or if there is a court appointed guardian or legal custodian of the minor applicant, it shall mean the guardian or legal custodian.
   5. The term “dependent student,” as used in this rule is the same as a dependent as defined in sections 151 (e) (1) (2) (3) and (4) of the Internal Revenue Code of 1954. A copy of these provisions in the Internal Revenue Code of 1954 is incorporated in this rule by reference.
   6. A “non-Florida” student is a person not meeting the requirements of subsection (a) above.

   (2) In all applications for admission or registration at the institution on a space available basis, a Florida applicant, if a minor, the parent or legal guardian of the minor applicant, shall make and file with such application a written statement, under oath, that the applicant is a bonafide citizen, resident, and domiciliary of the state of Florida, entitled as such to classification as a “Florida student” under the terms and conditions prescribed for citizens, residents, and domiciliaries of the state of Florida. All claims to “Florida stu-
dent" classification must be supported by evidence as stated in 6C-7.05(1) if requested by the registering authority.

(3) A "non-Florida student" or, if a minor, his parent or guardian, after having been a resident and domiciliary of Florida for twelve (12) consecutive months, may apply for and be granted reclassification prior to the first day of classes of any subsequent term; provided, however, that those students who are non-resident aliens or who are in the United States on a non-immigration visa will not be entitled to reclassification. An applicant for reclassification as a "Florida student" shall comply with provisions of subsection (2) above. An applicant who has been classified as a "non-Florida student" at time of original enrollment shall furnish evidence as stated in 6C7.05(1) to the satisfaction of the registering authority that the applicant has maintained continuous residency in the state for the twelve months required to establish residence for tuition purposes. In the absence of such evidence, the applicant shall not be reclassified as a "Florida student." In addition, the application for reclassification must be accompanied by a certified copy of a declaration of intent to establish legal domicile in the state, which intent must have been filed with the Clerk of the Circuit Court, as provided by Section 222.17, Florida Statutes. If the request for reclassification and the necessary documentation is not received by the registrar prior to the last day of registration for the term in which the student intends to be reclassified, the student will not be reclassified for that term.

(4) Unless evidence to the contrary appears, it shall be presumed by the registering authority of the institution at which a student is registering that:

(a) The spouse of any person who is classified or is eligible for classification as a "Florida student" is likewise, entitled to classification as a "Florida student." This provision will not apply in the case of students who are non-resident aliens or who are in the United States on a non-immigration visa.

(b) If an applicant's eligibility for classification as a "Florida student" is based on the residency of the spouse, the spouse shall make and file with the application a written statement under oath, that said person is the spouse of the applicant and a bona fide citizen, resident and domiciliary of the state of Florida, entitled as such to classification as a "Florida student."

(c) No person over the age of 18 years shall be deemed to have gained residence while attending any educational institution in this state as a full-time student, as such status is defined by the Board of Regents, in the absence of a clear demonstration that he has established domicile and residency in the state, as provided under subsection (3) above.

(d) Any "Florida student" who remains in the state, after his parent who was previously domiciled in Florida or stationed in Florida on military orders removes from this state, shall be entitled to remain classified as a "Florida student" so long as his or her attendance at a school or schools in Florida shall be deemed "continuous." However, such student claiming continuous attendance must have been enrolled at a school, college or university in Florida for a normal academic year in each calendar year, or the appropriate portion or portions thereof, from the beginning of the period for which continuous attendance is claimed. Such a student need not attend summer sessions or other such intersession beyond the normal academic year in order to render his attendance "continuous."

(5) Appeal from a determination denying Florida status to any applicant therefor may be initiated after appropriate administrative remedies are exhausted by the filing of a petition for review pursuant to Section 120.68 F.S. in the District Court of Appeal in the appellate district in which the institution maintains its headquarters or where a party resides.

(6) Any student granted status as a "Florida student," which status is based on sworn statement which is false shall, upon determination of such falsity, be subject to such disciplinary sanctions as may be imposed by the president of the university.

(7) Special Categories—The following categories shall be treated as Florida residents for tuition purposes if adequate documentation is provided:

(a) A member of the Armed Services of the United States who is stationed in Florida on active duty pursuant to military orders, the spouse and the dependent students.

(b) A veteran of the Armed Forces of the United States of America with twenty (20) or more years of active military service, including the spouse and dependent students of
such veteran's immediate family, provided that the veteran is in Florida at time of retirement or moves to Florida within one year following retirement and files a declaration of Florida domicile.

(c) Full-time elementary, secondary, and community college faculty members under current teaching contracts in the state of Florida, and their spouses and dependent students.

(d) Full-time faculty, administrative and professional and career service employees of the University System and their spouses and dependent students.

(e) A student certified by his respective state for participation in the Academic Common Market Program of the Southern Regional Education Board who is enrolled in a program approved by the Florida Board of Regents.

(f) Florida domiciliaries living in the Panama Canal Zone who have not established domicile elsewhere, including the spouse and dependent students.

(g) Florida residents who had their residency in Florida interrupted by service in the U.S. armed forces, the Peace Corps or other similar volunteer organizations fostered by the United States government shall be deemed to have had residency in Florida during time of service in the aforementioned organizations.

(h) Reciprocal Agreements. The Board of Regents may enter into agreements with appropriate agencies and institutions of higher education in other states and foreign countries providing for the reciprocal exchange of students enrolled and prospective in higher educational institutions to facilitate utilisations of public higher educational institutions in this State and other states or countries. Such agreements may include provisions for waiver or reduction of non-resident tuition for designated categories of students who may include contractual payments to such other state or country, subject to the availability of appropriations. Such agreements shall have as their purpose the mutual improvement of educational advantages for residents of this State and such other states or countries with whom agreements may be made. Specific Authority 240.042 (2) (9), 240.052 (1) FS. Law implemented 240.042 (1), (2) (a), (h), 240.052 (1), (2) (a), (b), (3), and 120.53 (1) (a) F.S. History—Formerly 60-2.51, 11-18-70. Amended 8-20-71, 6-5-73, 3-4-74.
RECORDS DEADLINE—Supporting Documents
All supporting admissions documents (e.g., transcripts and test scores not recorded on official transcripts) should be received by the Admissions Office no later than 15 days preceding the first day of classes. In some cases applicants may be allowed to register on a temporary basis (without all records) assuming it can be determined from available records or consultation with the students that they appear admissible.

RECORDS—Validity of Documents
All supporting admissions documents must be received directly from the issuing institution or testing agency and if the University finds that an applicant has made a false or fraudulent statement or a deliberate omission on his application, residency affidavit, health report, or any accompanying document or statement, that applicant may be denied admission. Should the student be enrolled when such fraud is discovered, he may be immediately withdrawn (with no refund), further enrollment denied, and credit earned and any degree based upon such credit invalidated. Actions for this type of offense will be handled administratively by the University Registrar's Office after notification to the alleged violator and hearing by that office.

MEDICAL HISTORY REPORT
All new students must furnish Medical History Reports on the approved University health form before registration will be allowed. The Medical History Report form will be mailed to the applicant with receipt for the Application for Admission.

ADMISSION REQUIREMENTS
The following classes of applicants are eligible for consideration as candidates for admission to credit courses. It should be understood, however, that minimum requirements are given and that admission to the university is a selective process. While the satisfaction of minimum requirements does not automatically guarantee admission, students who meet them are normally admitted. The state universities in Florida are allowed to admit a limited number of beginning freshmen as exceptions to normal admission requirements. The Board of Regents regulations state that "no more than 10% of the projected freshman class may be admitted as exceptions." UCF admits students under this provision if there is evidence indicating a reasonable probability that the applicant can satisfactorily complete a program for which he or she is seeking admission.

College of Health and College of Education undergraduate majors have additional requirements listed in appropriate college sections.

FRESHMAN APPLICANTS (First College Attended)
Eligibility is subject to satisfactory receipt and review of all items requested in the admissions process. All applicants must have earned a minimum of 12 high school academic units (i.e., from the areas of English, foreign language, mathematics, science, social studies, or history.)
Students eligible to apply for admission to the University are:
1. Graduates of regionally accredited high schools who have a "2.5" average or above (as computed by the University) for all academic subjects taken in ninth through twelfth grades and a minimum test score of 850 on the SAT or 19 on the ACT. Students with a "B" average will normally be admitted even if the test score falls below the above minimums.
2. Graduates Possessing State High School Equivalency Diplomas based upon General Education Development testing and who have acceptable high school records for the portion attended and have a minimum score of 850 on the SAT or 19 on the ACT.

Graduates Who Do Not Meet Requirements in the two categories Above, But Who Were Graduated from a Regionally Unaccredited High School will be considered on an individual basis. Such applicants may be admitted on a "provisional" basis. By obtaining a 2.0 GPA (C average) or better at the end of the first term of attendance, the provisional status will be removed. Earning less than a "C" average for the first term would result in academic probation status.
Graduates Who Do Not Meet These Entrance Requirements And Are Considered Borderline Admission Cases are referred to the University Admissions and Standards Committee for review. It may be recommended that a student attend a Florida Community College before reapplying to UCF.

ACCREDITATION
For the purposes of this Bulletin "Accredited Institutions" means those institutions accredited by the six regional associations, viz:
- New England Association of Schools and Colleges
- Middle States Association of Colleges and Secondary Schools, Commission on Institutions of Higher Education
- North Central Association of Colleges and Schools, Commission on Colleges and Universities
- Northwest Association of Secondary and Higher Schools, Commission on Higher Schools
- Southern Association of Colleges and Schools
- Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities and Accrediting Commission for Junior Colleges.

COLLEGE TRANSFER APPLICANTS
An undergraduate student transferring from another college or university must (1) have a minimum GPA of 2.0 ("C" average) in all college work previously attempted, (2) be in good standing at the last institution attended, and (3) have a minimum GPA of 2.0 at the last institution attended. Refer to page 48, Re: Repeat Policy, Transfer Courses.

Should applicants have less than 2 years (90 quarter hours or 60 semester hours) of transferable college credit, they must meet the University's freshman entrance requirements and, therefore, furnish high school records and satisfactory test scores.

Credits in which an applicant has achieved a grade of "D" or better are transferable. Refer to page 38 for "D" grade transfer policy. All grades are included in transfer GPA.

No credit will be awarded for college-level GED tests, for courses given without a grade, nor for courses carrying grades but not credit hours.

Completed military service school courses may be evaluated on the basis of the recommendations of the American Council on Education when official credentials have been properly presented. Credit may be granted when courses are equivalent to those offered by the University. However, recommendations by the A.C.E. are not binding upon the University, and application for service school course should be made at the time of admission.

Graduates from other accredited four-year institutions who apply for admission to work toward a second undergraduate degree must meet the regular requirements of the University (See Undergraduate Degree Requirements, page 42 and Second Baccalaureate Degree, page 44). A baccalaureate degree or higher from another accredited four-year institution satisfies the Basic and Advanced General Education Program requirements.

Transfer students from Florida State Community Colleges or Universities may satisfy the Basic General Education Program requirements by completing prior to transfer, the general education program prescribed by the community college or university. Transfer applicants with incomplete General Education Programs will have their credits evaluated on an individual basis. In Florida public community colleges, the Associate of Arts Degree (AA) is the university transfer degree that normally guarantees the admission of new students. The Associate of Science Degree is a two-year terminal degree which does not assure admission except for the AS in Engineering Technology which leads into our special upper division BET Degree Program.

1. Florida State Community College Transfers. Admission to the University is normally granted to any graduate of a Florida community college who has completed the Associate of Arts program and graduated with a 2.0 GPA ("C" average). UCF honors forgiveness if part of an AA degree.

2. Private Colleges and Out-of-State Institutions. The general education program credits of transfer applicants from private junior and senior colleges and out-of-state institutions will be evaluated on an individual basis.
3. Unaccredited Colleges or Universities. Transfer applicants who otherwise meet all requirements, but who enter from a "regionally" unaccredited college or university, will be considered on an individual basis. Admission may be granted on a provisional, probationary and/or non-degree basis depending upon the applicant's record. "Validating" credit may be required before transfer of credit is considered.

Regardless of where the student transfers from—a Florida Community College, another Florida University, or another college or university outside that state, it is the student's responsibility to submit the necessary petition(s) to the college of major in order to determine which courses will transfer with regard to degree progress at UCF. Each College has different petition procedures but generally the petitioning should be done during the second full term of the student's residency at UCF in order that the accepted transfer courses are clearly understood by the student and the faculty advisor early in the student's program.

Final determination regarding applicability of credits accepted in transfer toward the fulfillment of degree requirements resides with the College in which a student is enrolled.

The Admissions and Standards Committee membership is composed of representatives from all colleges of the university, the Faculty Senate, Minority Student Services, Student Affairs, Undergraduate Studies, the study body, and the Admissions Office. This committee normally meets weekly to review marginal cases and to consider the appeals of applicants. A letter of explanation is recommended establishing the basis for an appeal.
TRANSFER OF "D" GRADES
Credits earned in courses transferred with "D" grades will count toward the credits required for the baccalaureate; however, it is at the discretion of the department or college of the University offering the major as to whether courses with "D" grades in the major may satisfy requirements in the major field.

SUBSTITUTION OF COURSES
If a student has completed a course similar to one required at UCF, he may file a petition to have an exception made in meeting the UCF requirement. A petition to substitute any course or courses in the General Education Program should be directed to the Standards Committee of the college in which the student is registered. To make a substitution for requirements in a major, the student should direct his/her petition to the department in which he/she is registered.

READMISSION
Students not in attendance during an academic semester (exclusive of a summer term) must submit an application for readmission and such other information as may be required, including transcripts of courses attempted in the interim.

Readmission of a suspended (disqualified or excluded) student is never automatic. If a student has been disqualified or excluded, he/she must be readmitted by action of the University Admissions and Standards Committee after review of the student's total record. A letter of appeal/explanation is recommended.

Any former student who withdrew with a cumulative or overall grade point average of less than 2.0 (C) and who is considered readmissible, will be readmitted on academic probation.

REACTIVATION
A student who has submitted an application for admission to UCF but never attended may reactivate the original application by submitting a reactivation form within two years. The deadline date for reactivation is the same as the date for new applications for admission. (See calendar.)
TYPES OF STUDENTS

TEMPORARY STUDENTS

Any student who applied before the application deadline date and is permitted to register and attend classes without a complete admission file is granted a maximum of four weeks (first 20 class days), to furnish all required records. Incomplete records or records indicating ineligibility will result in cancellation of the student's registration. No fees are refundable after the first week of classes.

TRANSIENT STUDENTS—CONCURRENT ENROLLMENT

UCF Students. A UCF degree-seeking student who wishes to earn credit at another college or university for transfer back into his degree program must obtain prior approval for specific courses from the Dean or Department Chairman of his respective college and the Registrar of UCF. Credit earned without this transient approval may not be accepted. Transient forms are available in the Records Office. Transient credit cannot be used to reduce the last 30 semester hour residency requirement.

Students from Other Colleges or Universities. Students in good standing with a 2.0 overall academic average in any accredited college or university and wishing to enroll for one term at UCF may be considered for admission as a transient. Such enrollment terminates at the end of one term and does not presuppose regular acceptance by any college or department of the University. A transient form indicating the parent institution's willingness to accept the credits and that the student is in good standing is required. This statement protects the student and serves as a basis for admission in lieu of transcripts. Transient forms are available in the Admission Office.

AUDIT STUDENTS

In order to audit any course, permission of the instructor is required. A new applicant desiring only to audit a course must complete an application and be accepted as a non-degree or regular student. All students register to audit a course at the end of Late Registration only. A student may change from credit to audit only during the Add/Drop period.

NON-DEGREE STUDENTS

An individual may enroll as a non-degree seeking student using a regular application form. Although such students do not have to meet all of the regular admission requirements of degree seekers, there must be some satisfactory basis for acceptance.

In order to change to degree-seeking status, a non-degree student must provide all academic records required of degree seekers, including testing. A student may establish a basis for changing to degree status by completing 16 semester hours of work here with a 2.0 UCF GPA or above. Such students should be cautioned that no more than 30 semester hours earned as a non-degree student can be counted towards a degree. Change of status is not automatic. Degree status must be applied for through the Admissions Office. The student's total record will then be reviewed and a decision made.

INTERNATIONAL STUDENTS

The University of Central Florida is authorized under Federal law to enroll non-immigrant alien students. Undergraduate applicants should refer to the Admission Requirements Section of this Bulletin and graduate applicants to the Graduate Studies Section. In addition, the following is required for admission:

Undergraduate applicants should refer to the Admissions Requirements Section of this Bulletin and graduate applicants to the Graduate Studies Section. In addition, the following is required for admission:

1. International student applications and records required for admission must be received at least three months prior to the beginning of the desired term.
2. Only those students with superior academic records (i.e. upper 20th percentile or U.S. "B" average equivalent) will be considered for admission. Normally an excep-
tion to the above will be made for those students who will receive the Associate of Arts (AA) Degree from a Florida community college or state university.

3. Undergraduate applicants whose native language is not English must submit a minimum score of 550 on the Test of English as a Foreign Language (TOEFL). Graduate applicants must score a minimum of 500 on the TOEFL.

4. Certified English translation of official records showing grades or marks of courses taken, range of passing and maximum marks, and noting successful completion of schooling must be submitted.

5. Applicants must file a financial statement confirming availability of finances for each year of study.

Any additional information or records requested must be furnished before admissions can be final.
DEGREE REQUIREMENTS

GENERAL EDUCATION PROGRAM
The General Education Program is designed to give students insight into the major areas of knowledge taught at the University. It further provides the opportunity for making a more meaningful choice in their majors and in selecting elective courses.

The General Education Program outlined below is new and takes effect with the 1981-82 academic year. Students who qualify to graduate under the former general education requirements (Environmental Studies Program) and who choose to use those requirements for graduation should consult previous catalogs which contain a description of that program.

Students graduating under the 1981-82 bulletin who have not satisfied the general education requirements in English and mathematics must take the placement examinations in both areas at the earliest opportunity. Failure to take the examinations disqualifies students from registering in the required English and mathematics general education courses.

The General Education Program outlined below designates the specific courses which may be used to fulfill the General Education Program requirements, but a more advanced course of the same discipline may be used as a substitute.

**GENERAL EDUCATION PROGRAM**
(49 semester hours required)

I. Lower Division (43 semester hours required)
   A. Communication Foundations .............................................. 9
      1. English Composition I: ENC 1101 3(3,0)
         English Composition II: ENC 1102 3(3,0)
      2. Speech and Communication: SPC 1014 3(3,0)
   B. Cultural and Historical Foundations .................................. 9
      1. Western Civilization, or Humanities, or U.S. History .......... 6
         One of the following 2 semester sequences required:
         EUH 2000 Western Civilization I 3(3,0)
         EUH 2001 Western Civilization II 3(3,0)
         HUM 2211 Western Humanities I 3(3,0)
         HUM 2230 Western Humanities II 3(3,0)
         AMH 2010 U.S. History: 1492-1877 3(3,0)
         AMH 2020 U.S. History: 1865-present 3(3,0)
      2. One course from the following, all of which have a prerequisite of one sequence in 1 above ........................................ 3
         ARH 2050 The History of Art I 3(3,0)
         ARH 2051 The History of Art II 3(3,0)
         MUL 2011 Enjoyment of Music 3(2,1)
         THE 1020 Theatre Survey 3(2,1)
         THE 2071 Cinema Survey 3(2,1)
         REL 2302 World Religion 3(3,0)
         PHI 2010 Introduction to Philosophy 3(3,0)
         LIT 2110 World Literature I 3(3,0)
         AML 2011 American Literature I 3(3,0)
         ENL 2010 English Literature I 3(3,0)
   C. Mathematical Foundations ............................................... 3
      1. MAC 1104 College Algebra 3(3,0)
         MAC 1XXX Finite Mathematics
         (Course number to be determined) 3(3,0)
   D. Social Foundations .................................................... 9
      (Must include one course from each group)
      1. PSY 2013 General Psychology 3(3,0)
SOC 2000 General Sociology
ANT 2003 General Anthropology
2. ECO 2013 Principles of Macroeconomics
3. POS 2041 American National Government

E. Science Foundations .......................... 7
(Must include one laboratory and must include a minimum of one course from each group)
1. PSC 1512 Physical Science PR: MAC 1104 or Finite Mathematics.
   PHY 2050C College Physics PR: MAC 1104 4(3,3)
   CHM 1034 General Chemistry PR: MAC 1104 3(3,0)
2. BSC 1020C Biological Principles PR: PSC 1512 4(3,2)
   BSC 1030C Biology and Environment PR: PSC 1512 4(3,2)
   GLY 1000 Geology & Its Applications PR: PSC 1512 3(3,0)
   GEO 1200 Physical Geography PR: PSC 1512 3(3,0)

F. Restricted Electives .......................... 6
1. COC 1100 Introduction to Computer Science 3(3,0)
   STA 2014 Principles of Statistics 3(3,0)
2. Any two sequential lower division foreign language courses 3(3,0)
   (in one language) 3(3,0)

II. Upper Division ................................ 6
To be taken from a limited group of 3000 level courses selected specifically for the General Education Program by a university wide committee. Course selection must be outside the areas of concentration of the major. A list of approved courses will be given to advisors.

DEGREE REQUIREMENTS
Each student is responsible for reading and understanding the degree requirements as stated in the catalog under which he plans to graduate.

UNDERGRADUATE
The requirements for a major, including the University graduation requirements, must be met by each student who receives a degree from the University of Central Florida. The minimum bachelor degree requirements for all students are as follows:

- A minimum of 120 academic semester hours credit with at least a “C” average (2.0 GPA) for all course work attempted (both UCF and overall).
- A minimum of 60 semester hours of work taken for the bachelor’s degree must be earned in a senior institution.
- A minimum of 48 semester hours of work taken for the bachelor’s degree must be taken in 3000-level courses or above.
- A minimum of (and the last) 30 semester hours must be earned in residence at UCF. Credit by examination may not be used to satisfy this requirement.
- A maximum of 45 semester hours in any combination of extension, correspondence, CLEP, Time Shortened Degree and Armed Forces credits accepted by the University may be applied toward an undergraduate degree. The acceptance of credit for degree purposes is subject to review by the college standards committee and may differ from college to college. Additional semester hour credit may be granted by examination given at UCF.
- A student entering a university in the State University System after September 1, 1976 with fewer than 60 accepted semester hours of credit upon admission must earn 10 semester hours prior to graduation by attending one or more summer semesters at a university in the State University System. A student may secure a “Request for Waiver of Mandatory Enrollment” form from the Office of Undergraduate Studies.
- A student has the option of fulfilling the course requirements for graduation under any single UCF Bulletin in force during his most recent period of continuous attendance.
The use of a combination of Bulletins to fulfill degree requirements is not permitted. Should his attendance be interrupted, for more than two consecutive semesters, his continuous attendance would begin with his most recent admission. The university reserves the right to discontinue course offerings at any time. Students meeting graduation requirements outlined in an earlier catalog will be required, with prior approval by the dean, to substitute alternate courses for those no longer offered. Except for the foregoing, the Administrative and Academic Policies of the current Bulletin will be considered official for graduation. A Florida community college graduate may elect to use the UCF Bulletin in force at the beginning of his most recent continuous attendance at the community college provided his attendance continues uninterrupted including his transfer to UCF.
GRADUATE

The following University-wide graduate degree requirements must be met by each student who receives a master's degree from the University of Central Florida. The minimum master's degree requirements are: at least 30 semester credit hours of graduate work, with a minimum average of "B" for all courses attempted and at least one half of the minimum required course work must be numbered 6000 or higher.

Additional graduate program degree requirements are specified in this Bulletin in the section on Graduate Studies in the graduate program section of each of the individual colleges.

DOUBLE MAJORS

Any UCF student working toward a single baccalaureate degree and who satisfies all requirements for two majors leading to that degree will have one diploma awarded, and both majors will be indicated on his permanent record. Majors under each degree are listed on page 57. For example, a student who satisfies all requirements for a major in Political Science and for a major in History would be awarded a single Bachelor of Arts degree with the two majors indicated on his permanent record. Similarly, if a student wishes to pursue two majors leading to different baccalaureate degrees (e.g., Psychology which leads to a Bachelor of Arts degree and Biology which leads to a Bachelor of Science degree), he must satisfy the requirements of both majors. Although both majors will be indicated on his permanent record, only one diploma will be awarded (e.g. B.A. in Psychology or B.S. in Biology, at the student's option).

SECOND BACCALAUREATE DEGREE

Any UCF student desiring to obtain two baccalaureate degrees must meet the requirements for both degrees and earn a minimum of 150 semester hours. A separate diploma will be awarded for each degree.

Transfer graduates from accredited four-year institutions who apply for admission to work toward a second baccalaureate degree at the University of Central Florida must meet the regular graduation requirements of the major department and the 30 semester hour residency requirement. Students holding the baccalaureate degree from an accredited Institution are considered to have completed all General Education Program Requirements.

MINORS

Minors in a limited number of programs have been authorized for certification with baccalaureate degrees granted August 25, 1978, and thereafter. Minors, like majors, must be certified at the same time of certification for graduation with a baccalaureate degree. Certification will not be made at a later time even if additional courses have been completed unless an additional baccalaureate degree is certified. Minors must be indicated on the Intent to Graduate Card.

STEPS IN THE GRADUATION PROCESS

UNDERGRADUATE AND GRADUATE

A student should apply to the Registrar for graduation before registering for his final semester of attendance and not later than the last day of the Add-Drop Period for that semester.

Upon completion of 100 undergraduate semester hours of course work, the student is notified to report to the Registrar's Office.

The following steps are required of a student who is near or in his/her last semester before graduation:

1. The student must complete an "Intent to Graduate" form, available in the Registrar's Office, not later than the last day of the Add/Drop period in the semester in which graduation is anticipated.

2. The candidate for graduation must initiate a checksheet for graduation with his/her advisor. At the end of the semester the checksheet will be completed and forwarded for approval to the Dean of the college in which the student is enrolled. If approved, the Dean will forward the checksheet through appropriate channels to
the Registrar's Office for inclusion in the student's permanent university record. Successful completion of the degree requirements stated in the bulletin under which the student has indicated he wishes to graduate (following the rules stated on page 42) shall constitute a recommendation of the respective college faculty that the degree be awarded, assuming the student is in good standing in the University.

A student must complete all requirements for a baccalaureate or graduate degree no later than the date of the semester graduation ceremony. A student registered as a transient student at another institution during the last semester before graduation must have received a waiver of the last 30 hour residence requirement, must complete all courses by the date of UCF's graduation and must provide an official transcript of work taken no later than 5 days after the UCF graduation date.
ACADEMIC POLICIES AND PROCEDURES

ACADEMIC STANDING
Acceptable academic standing at the University is reserved for those students who achieve and retain a GPA of 2.0 (C) or higher. A student remains in good standing academically as long as he achieves normal academic progress required for graduation.

STUDENT CLASSIFICATIONS
Students will be classified by level, on the basis of quarter hours satisfactorily earned:

FRESHMAN: Through 29 semester hours.
SOPHOMORE: 30-59 semester hours.
JUNIOR: 60-89 semester hours.
SENIOR: 90 or more semester hours, prior to completion of baccalaureate requirements.

POST BACCALAUREATE: Any student enrolled in courses, regardless of course level (except one working toward another baccalaureate degree), who has a baccalaureate degree but has not been admitted to a graduate program.

GRADUATE: Any student enrolled in graduate courses who has been admitted to a graduate program.

Other student classifications are as follows:

AUDITOR: A student registered for any credit course who is not seeking credit.

CO-OP STUDENT: A student enrolled in the Cooperative Education Program remains a registered student during all off-campus assignment semesters. Furthermore, there is no lapse in continuity in the co-op school calendar: a co-op student is either on assignment or attending class during each school semester. (See Veteran’s Benefits for co-ops.)

SPECIAL STUDENT: A student of demonstrated academic ability who does not meet the regular requirements for admission (Early Admission, non-degree, transient and auditor).

TEMPORARY: A student who applied on time and is permitted to register and attend class pending completion of his admissions file.

TRANSIENT: (1) A student temporarily registered (for one semester) at the University of Central Florida with the approval of some other university or college where he is regularly enrolled, or (2) a UCF student temporarily in attendance at another university or college, with the approval of UCF.

NONDEGREE: A student earning credit, but not working on a degree program.

PROVISIONAL: A student entering from a regionally unaccredited high school, college or university may be admitted on provisional status where appropriate. By obtaining a 2.0 GPA (C average) or better at the end of the first semester of attendance, the provisional status will be removed. Earning less than a “C” average the first term would result in academic probation status.

ACADEMIC TERMS AND ACTIONS DEFINED

Semester Average: Grade Point Average on work attempted during any given semester.

UCF Average: Grade Point Average on all work attempted while in attendance at the University of Central Florida.
Overall Average
Grade Point Average on all work attempted since entering college, including work from all previously attended institutions.

Academic Probation
Action taken when a Student’s UCF cumulative or overall GPA drops below 2.0. A student, also, may be admitted on Academic Probation. Academic Probation will continue until the current term, UCF cumulative and overall GPA reach 2.0 or better.

Disqualified
A student on Academic Probation is Disqualified upon failing to achieve a 2.0 GPA during the subsequent semester. A student who is Disqualified may not enroll at the University for two semesters following disqualification. Readmission after two semesters is not automatic. A disqualified student must apply for readmission. The total record will then be reviewed and action on readmission taken by the University Admissions and Standards Committee.

Exclusion
A student readmitted following disqualification who fails to achieve a 2.0 GPA is excluded from the University. Exclusion is most serious and readmission will not be considered prior to a minimum suspension period of one year.

Appeal
Every student has the right to Appeal any of the preceding three academic actions either in person or in writing. The Appeal should be made to the Admissions and Standards Committee. Contact the Director of Admissions for procedure.

Readmission
If a student has dropped out of the University for any reason, he must reapply on the appropriate form (see calendar for deadline).

First time UCF students may be admitted on Academic Probation at the discretion of the Admissions Officer or the Admissions and Standards Committee. Academic Probation is intended to inform the student making unsatisfactory progress of his need to alter study habits and to seek additional counseling. Early recognition will indicate to the student the possible jeopardy to academic goals, and will also allow an opportunity to demonstrate acceptable performance.

EARNING CREDIT WHILE DISQUALIFIED OR EXCLUDED
A student disqualified or excluded while a Freshman or Sophomore and who subsequently receives an A.A. degree with a “C” average (2.0 GPA) on all college work attempted from a Florida community college may be readmitted to the university with credit earned accepted in accordance with standard University policies.
A student who attends other colleges or universities following disqualification will be classified as a transfer student and his readmission will be based on his total educational record.

GRADING SYSTEM
The University will use 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:

GRADING SYSTEM
A—Excellent .................................................. 4 grade points
B—Good .......................................................... 3 grade points
C—Average ....................................................... 2 grade points
D—Passing ....................................................... 1 grade point
F—Failure ......................................................... 0 grade point

OTHER ACTIONS
W—Withdrawn .................................................. 0 grade point
I—Incomplete ................................................... 0 grade point
X—Audit (no credit) ........................................... 0 grade point
S—Satisfactory (with credit)/Satisfactory Progress (Research, Thesis, or Dissertation) .................................................. 0 grade point
U—Unsatisfactory (no credit) .................................. 0 grade point
R—(followed by grade)
—Subsequently repeated (no credit) ...................... .0 grade point

The grade point average (GPA) is the average number of grade points per semester hour attempted and is computed by dividing the total number of grade points assigned by the total number of semester hours attempted, less hours resulting from W, X, and I grades. The grade point average for graduation requirements is 2.0 (C) and will be computed on both the student's total academic program and UCF program.

SEMESTER HOURS EXPLAINED

The graduation credit value of each course of instruction is stated in terms of semester hours. A semester hour of credit represents one class hour of work (or two or more laboratory hours of work) per week for a semester.

Classes may be offered for a six week period during the summer semester. Two class hours of work (or four or more laboratory hours of work) per week are required to represent a semester hour of credit.

HONORS

It will be the policy of the University to confer baccalaureate honors recognition at graduation upon those students who attain a grade point average which is in the upper 15% of the range established by all students graduating in the same college during the previous two years. In no case will honors recognition be awarded to a student with a grade point average less than 3.0.

Honors awarded will be:

Summa Cum Laude for those students in the upper 5%.
Magna Cum Laude for those students in the upper 10%, but not in the upper 5%.
Cum Laude for those students in the upper 15%, but not in the upper 10%.

For the purposes of establishing honors criteria grade point average reference points will be established annually for each college at the end of the summer semester. Grade point average reference points will be determined by ranking graduates of the previous two years in each college and establishing the minimum grade point averages of students ranked in the upper 5%, 10%, and 15%, respectively, in that college. These reference points will be used during the subsequent Fall, Spring, and Summer terms to determine who will receive honors recognition at graduation.

To receive honors recognition, students must have completed a minimum of 48 semester hours at UCF. All UCF and transfer credit (if any), including those received in the term of graduation, will be used to determine official honors for entry on the student's permanent academic record. The semester of graduation will be excluded in determining honors for listing in the commencement bulletin, as it is printed before final grades are reported, and therefore a student qualifying for honors recognition at commencement may or may not qualify for honors on his academic record.

DEAN'S LIST

The Dean's List is recognition of scholastic honors for undergraduate students who register for and complete at least 12 Semester Hours with a 3.4 GPA and no grade less than "C" during a semester.

REPEAT POLICY

UCF Courses. A student may register to repeat a UCF course at any time prior to completion of the baccalaureate degree. Both grades will be recorded on the student's official transcript and averaged in his grade point average. Hours for completion may be used only once toward degree requirements.

Transfer Courses. If a transfer student takes an equivalent course at UCF which was previously completed at another institution or completes the same course twice at another institution, both grades will be utilized in calculating the student's grade point average. However, in keeping with the Articulation Agreement's Forgiveness Policy (Utilizing only the last grade in the GPA), a Florida state supported community college's forgiveness will be honored for students who receive an A.A. Degree.
ACADEMIC ETHICS POLICY

The faculty of the University of Central Florida are committed to a policy of honesty in academic affairs. Conduct for which students may be subject to administrative and/or disciplinary penalties up to and including suspension or expulsion include:

A. Dishonesty consisting of cheating of any kind with respect to examination, course assignments, or illegal possession of examination papers. Any student helping another to cheat is as guilty as the student assisted.

B. Plagiarism consisting of the deliberate use and appropriation of another's work without any indication of the source and the passing off of such work as the student's own. Any student who fails to give credit for ideas or materials taken from another is guilty of plagiarism.

Procedure

In cases of cheating or plagiarism:

The instructor shall take whatever academic action he/she deems appropriate. This may range from loss of credit for a specific assignment, examination, or project to removal from the course with a grade of "F". The instructor should seek to resolve the problem with the student to their mutual satisfaction. In addition, the instructor may also request disciplinary action through the Dean of Students if necessary, who shall proceed in accordance with provisions outlined in the APA Chapter 6C7-5.041.

INCOMPLETE GRADE

A grade "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 time following the close of regular classes. The Registrar's Office must be notified of the appropriate grade to be assigned no later than the date shown in the Academic Calendar of the term immediately following that in which the "I" was assigned. Failure to complete course requirements by that day may, at the discretion of the instructor, result in the assignment of an "F" grade. It is the student's responsibility to arrange with the instructor for the changing of the "I" grade to receive credit. Both the new grade and the letter "I" will appear on the student's permanent record. If the "I" grade is not changed by the established deadline, it becomes a part of the student's permanent record and no credit is given for the class. A student may register for a course in which an "I" was received, but no repeat "R" action will be made on his permanent record.

WITHDRAWAL POLICY—From a Course (After Add-Drop Period) or from the University

"Students may withdraw from classes until the end of the eighth week of any regular academic term or until the midpoint of any term. No withdrawal is permitted after the above times except in extraordinary circumstances. Upon request, the course instructor shall provide the student with an assessment of the student's performance in the course prior to the last day for withdrawal. Students desiring to petition for a withdrawal after the deadline should go to the Office of Undergraduate Studies."

SCHEDULE CHANGES—Add-Drop Policy

Add: Students may add a course during the official Add-Drop Period (the first three to five days of each term—see calendar). After the add-drop period, no course may be added.

Drop: Students may drop a course during the official Add-Drop Period (the first three to five days of each term—see calendar). The fact that the student was enrolled in a class so dropped will not appear on the permanent record. Approval of the student's faculty advisor is necessary before any course change. For withdrawal after the add-drop period, consult the withdrawal Policy.
OTHER RELATED INFORMATION

STUDENT CONSUMER INFORMATION
The University of Central Florida completes retention studies, validity studies, and student progress reports on a periodic basis. These studies and related information are available at the Reserve Desk in the Library.
SCHEDULE OF FEES

A student's basic expenses at the University will be for tuition fees, room and board, textbooks, other instructional supplies, and miscellaneous items.

Required fees are established by the Board of Regents and the Florida State Legislature and are subject to change without notice.

It is required that all University fees be paid at or before the end of the Add/Drop registration period. University policies do not permit deferring fees or paying by installments during the semester. Failure to pay fees on or before due date can result in a $25.00 late registration fee.

The following schedule applies to all the University of Central Florida students:

**General Fees and Costs**

A. Application fees must be paid by U.S. check or money order (required with all applications for admission to the University and not refundable) ...................... $15.00

B. Registration Fees per semester for campus, centers, and continuing education courses. Minimum registration of one credit hour (at the level the student is classified) must be charged for students registering for zero hours (co-op student on work assignment, applicant for graduation during the semester that student is not registered, etc.)

<table>
<thead>
<tr>
<th></th>
<th>Fall and Spring Semesters</th>
<th>Summer Quarter, 1980</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fla. Resident</td>
<td>Non-Fla. Resident</td>
</tr>
<tr>
<td>Lower Division*</td>
<td>$22.50 per hr.</td>
<td>$57.00 per hr.</td>
</tr>
<tr>
<td>Upper Division*</td>
<td>24.75 per hr.</td>
<td>77.25 per hr.</td>
</tr>
<tr>
<td>Graduate*</td>
<td>33.00 per hr.</td>
<td>93.00 per hr.</td>
</tr>
<tr>
<td>Thesis*</td>
<td>36.00 per hr.</td>
<td>96.00 per hr.</td>
</tr>
</tbody>
</table>

C. Room and Board (required of student living in University residence halls) per semester .................. $575.00-$833.00

D. Books and supplies (estimated) per semester .................. $75.00

E. Late Registration Fee—not refundable (for students who register during late registration periods or who fail to pay full fees by the established deadline.) .................. $25.00

F. Vehicle Registration (required of everyone operating a motor-powered vehicle on campus) per calendar year for full-time, part-time students, and courtesy students from other institutions.

   Student's fee .......................... $10.00

G. Reinstatement Fee—not refundable (for all students whose registration has been cancelled and reinstatement has been approved) .................. $25.00

   This fee is in addition to the late registration fee.

H. Student Health Fee—not refundable (per semester)

   Assessed to all students except those enrolled exclusively in Continuing Education courses. This fee must also be waived for senior citizens, for employees under the fringe benefit plan and for Intern Participation holders. Students on training session under the Cooperative Education Program will be required to pay the Student Health Fee. University employees who use the Tuition Fee Waiver for class attendance may
not elect to pay the Student Health Fee, regardless of the number of semester hours taken ............................................... $12.00
I. Intern Participation Holder .................................................. $3.75/hr.
J. I.D. Card replacement ........................................................ $5.00

CHECKS
The University cashier will accept personal checks for accounts due to the University. Each student is urged to make his own financial arrangements through his choice of commercial banks. For a nominal fee the University Bookstore will cash personal checks not exceeding $35.00. The University is required to collect a $5.00 Service Fee for any check, draft or order, which may be returned by the bank for any reason and future check cashing privileges will be denied.

REFUND OF FEES
A refund of fees will be made under certain conditions upon presentation at the Student Accounts Office of a Certification of Withdrawal issued by the Registrar. No refunds will be made under this policy except upon proper applications.
A. A FULL REFUND when:
   1. Withdrawal is made before end of Add/Drop period.
   2. Cancellation of the course by the University.
   3. Student is denied admission to an offered course by the University for whatever reason.
B. Full refund less $3.75 per hour when:
   1. Involuntary call to active military duty.
   2. Death of student or death of an immediate family member.
   3. Student contracts an incapacitating illness of such duration and severity as to prevent the successful completion of the academic program for the term enrolled, as confirmed in writing by a physician.
   4. Exceptional circumstances.

PAST DUE ACCOUNTS
Any, and all, financial obligations to the University must be met by the student if "good standing" is to be maintained. Failure to meet such obligations can result in the withholding of grades and transcripts, and denial of registration and readmission to the University. The services of a professional collection agency, and recourse to the courts may also be invoked if deemed necessary by the University Controller. All costs of collection, including attorney's fees shall be borne by the debtor.

GENERAL EDUCATION REQUIREMENTS CERTIFICATION
An undergraduate student who has not completed requirements for the Associate of Arts degree and who wishes to transfer to another Florida state university can have his transcript stamped GENERAL EDUCATION REQUIREMENTS MET if he has completed UCF's Basic General Education Program of 43 semester hours with a GPA of 2.0 or better. (See page 41 for program outline.) UCF will accept a similar statement on transcripts received from Florida community colleges or other institutions in the State University System in lieu of completion of the University's Basic General Education Program.

REQUIREMENTS FOR TEACHER CERTIFICATION
Since July 1, 1980, initial certification requirements (Temporary Certificate) in Florida have included three basic components with a fourth now added as prerequisite to (Regular Certificate) full certification. The components are:
I. GENERAL PREPARATION
   Courses included in this category are normally classified as general education (i.e., General Education Program). A graduate with a Bachelor's degree from an accredited institution shall be considered to have met the General Preparation requirements.
II. TEACHING SPECIALIZATION
   Courses included in this category are normally classified as the major area in a stu-
dent's college program. Other subjects can be shown if the specific requirements in 6A-4.07 through 6A-4.35 Florida Requirements for Teacher Certification have been met.

III. PROFESSIONAL PREPARATION

There are three means by which students can complete a program of Professional Preparation at UCF. They are:

1. The State Approved Program of Teacher Education (i.e. a major in the College of Education) and satisfaction of state requirements for SAT or ACT scores.
2. The Program of Teacher Education (i.e. a major in the College of Education) test scores between the 20th and 40th percentiles for college bound students on the SAT or ACT, and credit in a special course EDF 3937-Special Topics: Teaching Skills Development.
3. The Basic Certification Program (i.e. a major in some other college) and admis-sibility to the internship phase of the program.

IV. COMPREHENSIVE EXAMINATION

Competency must be demonstrated on a written examination in the areas of Mathematics, Reading, Writing, and Professional Skills. Examinations will be administered at least three times per year throughout the State of Florida.

Beginning July 1, 1981, a Regular Florida Teacher's Certificate may be issued to persons meeting all requirements for the Temporary Certificate and satisfactorily completing a year long internship approved by the State Board of Education.
TIME-SHORTENED DEGREE OPPORTUNITIES

The University of Central Florida provides a number of options by which students may shorten the time required to complete the baccalaureate degree. These options permit the university to recognize high levels of academic achievement and acquisition of knowledge prior to or during attendance at the university. Procedures which may be used include the Early Admission Program, the College Level Examination Program (CLEP), the Advanced Placement Program (A.P.P.) and the University Course Credit by Examination.

1. Early Admission Program
   Students who have demonstrated exceptional academic ability may be permitted to enroll as students at the University of Central Florida any time after completion of the junior year in high school. To be considered for full-time Fall Semester Early Admission, applicants must have:
   a. Superior test scores (SAT 1100 or above, ACT—26 or above).
   c. A recommendation from the student's high school counselor.
   d. A letter of permission from parents or guardian.
   e. A campus interview to ascertain the student's maturity and ability to adjust to collegiate responsibilities.
   Qualified students may dual-enroll on a part-time basis, taking one or two courses while completing their high school programs. An interview and letters of recommendation from parents and principal are required in addition to a superior record.
   Students desiring admission prior to high school graduation should contact the Admissions Office for an appointment.

2. College Level Examination Program (CLEP)
   The University of Central Florida grants university credit for examinations taken under the CLEP program provided the score obtained is at the 50th percentile or above on the National Sophomore CLEP norms.
   The University of Central Florida will award up to 45 semester hours of university credit under the CLEP program. (See page 56.)

3. Advanced Placement Program (A.P.P.)
   Students who have participated in the Advanced Placement Program in high school and received a score of three (3), four (4) or five (5) on the national examinations will receive from 3 to 6 semester hours of college credit in each of the appropriate subject areas. Consult your high school guidance counselor or write to the Educational Testing Service, Princeton, New Jersey 08540, for additional information.

4. University Course Credit by Examination
   Regularly enrolled undergraduate students at the University of Central Florida may obtain credit for specific university courses through Departmental Examinations. Those who feel they have acquired the knowledge and/or skills of a specific university course should contact their advisor and the chairman of the department in which the course is offered to arrange for an examination. Degree credit will be awarded for those courses successfully completed by departmental examination. Credit by examination may not be attempted in a course in which the student has previously enrolled and may not be used to reduce the last 30 semester hours in residency requirement. Credit by examination shall not be given for any course lower in content than courses in the same discipline (i.e., with the same rubric) in which a student is currently enrolled or which he/she has already completed. Permission to take an examination is approved by the chairman of the department and the dean of the college in which the course is offered. Standard forms requesting university credit by examination may be obtained from the Registrar's Office by presentation of an I.D. card. (See page 42).
   * Excludes transient and non-degree students.
CLEP credit may be earned by the following methods—CLEP general examinations, CLEP general examination subtests and CLEP subject examinations. A student may earn a maximum of 45 semester hours of credit through this program. Successful completion of CLEP examinations means performance at or above the 50th percentile.

Awarding CLEP credit is subject to the conditions listed below.

1. Credit may be awarded in the CLEP general examination area, CLEP general subtest area, or CLEP subject examination area provided the student; (a) has not previously received comparable college course credit in the CLEP examination area, (b) does not receive comparable college course credit in the CLEP examination area in the same semester the examination is taken or in a subsequent semester, (c) has not previously completed a more advanced course in the examination area, and (d) does not complete a more advanced course during the semester in which the CLEP examination is taken.

2. Partial credit may be awarded in two of the CLEP general examination subtest areas (Humanities and Social Sciences). Partial credit may be awarded to students who have course duplication in one subtest area but not in the other subtest area (e.g., a student has completed HUM 2200 but has not completed introduction to Literature or a more advanced literature course). In such a situation the student would be eligible to receive credit in the literature subtest area provided that he receives a satisfactory total score and a satisfactory subtest score. The restrictions listed in item 1 also apply to partial credit.

The following table provides information related to the CLEP general examination areas and subtest areas for which credit may be awarded. In addition, this table delineates the number of credit hours per examination, the minimum passing scaled score, the courses and other CLEP examinations which duplicate the CLEP general examination, and the CLEP usage. Information can be secured from the University Counseling and Testing Center on CLEP subject examinations for which credit may be awarded.

It is important to note that a maximum of 45 semester hours in any combination of extension, correspondence, CLEP, Time-Shortened Degree, and Armed Forces Service School Credits will be accepted by the University for application toward an undergraduate degree. In addition, CLEP credit cannot be used to reduce a grade point deficiency. For example, a CLEP grade cannot be substituted for a grade awarded for a previously completed course.
TABLE I

<table>
<thead>
<tr>
<th>CLEP GENERAL EXAMINATION**</th>
<th>Maximum Semester Hours</th>
<th>Minimum Passing Scaled Scores</th>
<th>Courses and Examinations which duplicate the general examination test area and conversely</th>
<th>CLEP Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>Subtest Areas</td>
<td>Gen Exam Subtest Total* Subtotal</td>
<td>UCF Course</td>
<td>Other Subject Exams</td>
</tr>
<tr>
<td>English Composition</td>
<td></td>
<td></td>
<td>ENC 1010: Vocabulary Study ENC 1101: Composition I</td>
<td>English Comp. Comp.</td>
</tr>
<tr>
<td>(with essay)</td>
<td>6</td>
<td>610</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>Fine Arts</td>
<td>6 3                      489*</td>
<td>Intro to Art** Humanities MUL 3011: Enjoyment of Music</td>
<td>3 SH Cult &amp; Hist foundation: Western Hum Survey req.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature</td>
<td></td>
<td>6 3                      489*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The minimum total score must be attained before subscores can be used for awarding credit.
** Not currently offered at the University of Central Florida.
*** Students must complete General Education Science foundation laboratory requirement.
ACADEMIC PROGRAMS

DEGREES OFFERED

ASSOCIATE OF ARTS DEGREE

University of Central Florida students who satisfactorily complete 60 semester hours of acceptable college work may apply for an Associate of Arts degree. University requirements include achievement of an overall and UCF grade point average of 2.0 or above, fulfillment of the Basic General Education Program requirements, and completion of the last 20 credit hours in residence at UCF.

The Associate of Arts degree is awarded only upon application. The application form may be obtained in the Registrar’s Office and should be completed by the end of the fifth week in the semester in which the Associate of Arts degree is to be awarded. An Associate of Arts degree will not be awarded after completion of the baccalaureate degree.

UNDERGRADUATE

The University offers the degrees of Bachelor of Arts, Bachelor of Engineering Technology, Bachelor of Fine Arts, Bachelor of Science, Bachelor of Science in Business Administration, Bachelor of Science in Engineering, and Bachelor of Science in Social Sciences. These degrees are available in the following Colleges with major or areas of specialization as indicated:

College of Arts and Sciences
Bachelor of Arts (B.A.)

Majors: Allied Legal Services, Anthropology, Art, Communication, Criminal Justice, Economics, English, Film, Film (RTV), Foreign Languages (General), French, Journalism, History, Humanities, Humanities and Fine Arts (Interdisciplinary), Music, Music Education, Philosophy, Political Science, Psychology, Public Administration, Radio-Television, Social Work, Sociology, Spanish, Speech, Theatre

Bachelor of Fine Arts (B.F.A.)

Major: Art

Bachelor of Science (B.S.)

Majors: Biology, Botany, Chemistry, Computer Science, Forensic Science, Limnology, Mathematics, Microbiology, Physics, Social Sciences, Statistics, Zoology

College of Business Administration
Bachelor of Science in Business Administration (B.S.B.A.)

Majors: Accountancy, Economics, Finance, General Business Administration, Management, Marketing

College of Education
Bachelor of Arts (B.A.)

Major: Elementary Education

Major: K-12—Educational Media Specialist, Physical Education, Visual Arts Education

Major: Secondary Education—Business Education (comprehensive), English Language Arts, Foreign Language, Mathematics, Science Education, Social Science, Speech, Technical/Vocational

College of Engineering
Bachelor of Science in Engineering (B.S.E.)


Bachelor Engineering Technology (B.E.T.)

College of Health
Bachelor of Arts (B.A.)
  Major: Communicative Disorders
Bachelor of Science (B.S.)
  Major: Medical Record Administration, Medical Technology, Nursing, Radiologic Sciences, Respiratory Therapy.

Office of Academic Affairs
Bachelor of Arts (B.A.)
  Major: Liberal Studies
Bachelor of Science (B.S.)
  Major: Liberal Studies

GRADUATE
The University offers graduate degrees in the following colleges:

College of Arts and Sciences
Doctor of Philosophy in Computer Science (Ph.D.)
Master of Arts (M.A.)
  Applied Sociology
  Communication
  English
  History
  Political Science
Master of Public Policy (M.P.P.)
Master of Science (M.S.)
  Biological Science
  Clinical Psychology
  Computer Science
  Industrial Chemistry
  Industrial Psychology
  Mathematical Science

College of Business Administration
Master of Arts (M.A.)
  Applied Economics
Master of Business Administration (M.B.A.)
Master of Science (M.S.)
  Accountancy
  Management

College of Education¹
Master of Arts (M.A.)
Master of Education (M.Ed.)
  Administration and Supervision
  Elementary Education including specializations in Exceptional Child,
    Reading Specialist
  Guidance
School Psychology (M.S.)
K-12—Educational Media Specialist, Music Education, Physical Education,
  Reading Specialist, Visual Arts Education
Secondary Education—Business Education, English Language Arts,
  Foreign Languages, Mathematics, Science, Social Sciences, Speech,
  Vocational Education
Education Specialist (Ed.S.)¹
Doctor of Education (Ed.D.)¹

¹ The College of Education through cooperative programs offers work leading to Educational Specialist and Doctor of Education degrees from Florida Atlantic University and the University of Florida. Information about applications, admission and regulations are available from the College of Education.
College of Engineering
Master of Science (M.S.)
   Engineering
Master of Science in Engineering (M.S.E.)
   Civil Engineering
   Electrical Engineering
   Engineering Mathematics and Computer Systems
   Environmental Engineering
   Industrial Engineering
   Mechanical Engineering
Master of Science in Environmental Systems Management (M.S.E.S.M.)

College of Health
Master of Arts
   Communicative Disorders

2 The College of Engineering through a cooperative program offers work leading to Doctor of Philosophy: Electrical Engineering from the University of Florida.
General Information

The Office of Graduate Studies consists of the Dean of Graduate Studies, an associate or assistant Dean of Graduate Studies, and a Graduate Council of appointed representatives from each college and the Faculty Senate. The Office of Graduate Studies is responsible for the establishment and subsequent monitoring of minimum University-wide standards concerning graduate admission and matriculation. It also coordinates the graduate programs of the various colleges of the University. However, responsibility for the detailed operation of the various graduate degree programs is vested in the individual colleges.

A listing of graduate degree programs is shown on page 58. For particulars concerning individual graduate programs, consult the index for appropriate page referrals.

The following general information pertains primarily to master's programs. For information concerning doctoral programs, consult the appropriate graduate program coordinators in Computer Science, Education, and Engineering.

Admission to Graduate Studies

Applications

Applications for admission to graduate study may be obtained from the Registrar, or from the Dean of the College offering the program. All completed applications must be returned to the Admissions Office. Applications which appear to meet minimum standards for admission to graduate study are referred to the Dean of the appropriate College for his recommendations.

Applications will not be considered without complete official transcripts showing the last 60 semester hours of undergraduate courses taken for the baccalaureate degree and all graduate work attempted. All transcripts must be official copies mailed directly to the Admissions Office from the Registrar of the institution in which the work was completed.

Admission Status

Normally a student is admitted on a Post-Baccalaureate status until his file is complete and the College Graduate Admissions Committee has had an opportunity to review his credentials. Before the completion of 9 semester hours in this status, a student must be admitted either to Graduate Status (Regular or Provisional) or be informed of conditions to be met before admission.

Post-Baccalaureate Status

Students may be admitted to the University in the post-baccalaureate (non-degree seeking) category under any of three conditions:

A. Temporarily, because their file is incomplete.
B. They do not wish to pursue a degree program.
C. They do not meet the standards for regular admission.

While the student may be admitted to the University, some graduate programs limit post-baccalaureate enrollment in their graduate level courses.

Since post-baccalaureate status is not a degree-earning status, credit hours taken during this status cannot be used toward a graduate degree except as noted in the following sentence. If a student is subsequently admitted to graduate status, a limit of 9 UCF or SUS semester hours of post-baccalaureate work (see Transfer of Credit) may be considered for transfer into the degree program.

If the student is placed in the post-baccalaureate category because he does not have
a sufficient grade point average or examination score (GRE or GMAT) graduate status may be attained only by repeating the examination and making an acceptable score or by being selected for Graduate Status—Provisional. Post-baccalaureate hours cannot be used to raise an insufficient undergraduate point average.

**GRADUATE STATUS—REGULAR**

To be eligible for consideration as a degree seeking student, the applicant must submit official GRE (or GMAT) scores and official transcripts showing degrees earned (a baccalaureate degree earned at a regionally accredited college or university being the minimal standard). Official transcripts for any credit earned beyond the baccalaureate degree must also be submitted. The applicant must meet the following minimum University and Program admission requirements.

**A. Minimum University Admission Requirements**

1. Baccalaureate degree from a regionally accredited college or university and either:
   i. a grade point average (GPA) of 3.0 (4.0 = A) for the last 60 semester hours credit earned for the baccalaureate
   or
   ii. a quantitative-verbal GRE score of 1000 or higher. Applicants to the College of Business Administration must submit a GMAT score of 450 or higher in lieu of the GRE for some programs.

2. Graduate degree from a regionally accredited institution.

**B. Program Admission Requirements**

The applicant must be accepted by the department or administrative unit offering the degree program to which the application is made. In any degree program, admission criteria above and beyond University minimums may be required. In the event enrollment in a program must be limited, additional criteria may be developed beyond those described in this catalog. Prior to submitting an application, students are expected to familiarize themselves with the program admission requirements specified in the respective degree program sections of this catalog (or in supplementary material available from the degree program).

**GRADUATE STATUS—PROVISIONAL**

Individual programs may elect (but are not required) to admit on a provisional basis a very limited number of students who do not meet the above minimum University admission requirements. Provisional admission is based upon evidence of academic and professional promise. If a course work average of 3.0 or higher is earned upon the completion of the first 9 semester hours of graduate program course work, provisional students may then be considered for acceptance into the degree program as regular graduate students.

**INTERNATIONAL STUDENTS**

Applicants from foreign countries whose native language is not English must submit a score on the Test of English as a Foreign Language (TOEFL) in addition to the GRE or GMAT. Minimum acceptable scores on the TOEFL are determined by each graduate program. For this information, consult the appropriate program. These examinations are offered periodically at test centers throughout the world by the Educational Testing Service. The TOEFL Bulletin of Information for Candidates, International Edition, and Registration Form are available at American embassies, consulates, offices of the United States Information Service or other U.S. government agencies abroad. International student enrollment is limited to the superior student and applications must be received three months prior to the start of the term desired. See academic calendar.

**APPEAL PROCEDURE FOR GRADUATE STUDENTS**

A student denied admission to graduate status has a right to appeal if the student meets the minimum SUS standards but does not meet the more stringent program requirements. The student should contact the Office of Graduate Studies for the procedure necessary to appeal a denial.
GRADUATE RECORD EXAMINATION/GRADUATE MANAGEMENT ADMISSION TEST REQUIREMENTS

Board of Regents Rules require applicants to submit scores on the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT). Applicants should refer to the appropriate graduate degree program section in this catalog for their particular requirements. Satisfactory scores on and satisfactory recency of these examinations are determined by the College to which the application is made.

Applicants should write to the Educational Testing Service, Princeton, New Jersey 08540 or contact the UCF Counseling and Testing Center for information on the GRE or GMAT testing dates and locations.

SECOND GRADUATE DEGREE PROGRAM

A student who has completed one graduate degree must be accepted by the new program before undertaking a second graduate program. Work taken without such approval will not count toward a graduate degree.

FLORIDA RESIDENCY (See page 32)

TRANSFER OF GRADUATE CREDIT

Upon petition a student may transfer a maximum of 9 semester hours of applicable work into his Program of Study. Nine semester hours of work taken as a post-baccalaureate student at UCF may be transferred. If work was taken at another Florida State University System institution, up to 9 semester hours of that may be accepted; however, only 6 semester hours may be utilized from institutions not in the State University System.

READMISSION

Students not registered in the previous academic term (exclusive of the summer term) must submit an application for readmission to the Registrar’s Office approximately one month before classes begin (see academic calendar for the exact date).

STUDENT RESPONSIBILITY

The student is responsible for informing himself of all rules, regulations, and procedures required by the Office of Graduate Studies and the College offering the course or program he is pursuing. Regulations will not be waived or exceptions granted because a student pleads ignorance of the regulation or claims failure of his advisor to keep him informed.

EXCEPTIONS TO GRADUATE REGULATIONS

When exceptional situations arise, petitions for special consideration may be submitted to the program coordinator with possible appeal to the College, and ultimately to the Graduate Council.

CHANGE OF MAJOR OR COLLEGE

Any change in status of a Graduate status student is executed via a GS-1 form. Therefore, the Change of College or Major forms are not applicable for graduate students. The procedure is for the student to transfer his folder to the new college. The new program will then issue a GS-1 form to admit him graduate or post-baccalaureate status, whichever is appropriate.

THE TRAVELING SCHOLAR PROGRAM

The University participates in a Traveling Scholar Program, enabling a graduate student to take advantage of special resources available on another campus but not available on his own campus: special course offerings, research opportunities, unique laboratories, and library collections.

A traveling scholar must receive the approval of his own graduate advisor and the appropriate faculty member at the host university, then be formally approved by the graduate deans at the respective institutions.

The scholar will be registered at the host university and pay regular fees there. He will receive a waiver of admission requirements and the application fee of the host university. Credit for work, which is guaranteed, will be recorded at the home university.

Normally, traveling scholars are limited to one term of off-campus study. They are not
entitled to mileage or per diem payments but the home university may, at its option, continue its financial support in the form of fellowships or graduate assistantships without any work obligation to be discharged at either university. Appropriate forms are available in the Office of Graduate Studies.

STUDENT'S COMMITTEE
The student's advisory committee (or advisor) shall, after consultation with the student, design a program of study for the student. The committee will provide continual guidance and is the principal mechanism for evaluating the student's progress.

Advisors and advisory committees will be appointed by the Dean of the College in cooperation with the Department or appropriate unit in which the student is enrolled. Advisory committees must have at least three (3) members.

STUDENT'S PROGRAM OF STUDY
A total program of study must be established for each student prior to completion of 9 semester hours of graduate credit or his first semester of full-time work. A copy of the program and names of the student's advisor or committee members will be filed with the Office of Graduate Studies prior to the start of the student's second semester.

COURSE LOADS
Graduate students applying for assistance under Public Law 89-358 (Veterans' Readjustment Benefits Act of 1966) must register for 6 credits per semester to qualify for certification as a full-time student. Post-baccalaureates must register for 9 credits. Normally, the maximum load for graduate students is 12 semester hours.

COURSES AND CREDITS
Courses numbered 5000-5999 are primarily for beginning graduate students. If these courses are used for an undergraduate degree, they may not be used for a graduate degree. If they are used for a graduate degree, they may not be used for a later undergraduate degree. Courses numbered 6000-6999 are exclusively for graduate students. At least one half of the course requirements of the student's graduate program of study must be at the 6000 level.

Undergraduate registration in 6000 level graduate courses is allowed only with prior approval, utilizing the Graduate Studies GS-7 form.

No more than 6 hours of 4000 level work may be utilized in a graduate program of study. Courses of 3000 level and below may not be utilized in a graduate program of study without prior permission from the Graduate Council.

No more than six (6) hours of independent study credit will be accepted in the program of study.

THESIS AND NON-THESIS MASTER'S DEGREES
At least 24 credits of course work must be earned exclusive of thesis for thesis degree. Thesis instructions for students are available in the Library.

At least 50% of the credits offered for the non-thesis degree must be in a single field of concentration. A research report is required for this degree.

CREDIT BY EXAMINATION—INDEPENDENT STUDY
Credit by examination may be utilized to satisfy course requirements, but not credit hour requirements.
GRADES AND SCHOLARSHIP
Acceptable grades for students pursuing graduate study are A, B and S. A student whose GPA falls below 3.0 on his graduate program of study will be considered to be on academic provisional status. After nine hours of continued unsatisfactory performance, the student will normally be dropped from the graduate program.

A grade of D or below cannot be accepted in a graduate program of study. A grade of C cannot be accepted for a 4000-level course in a graduate program of study.

A course may be repeated for a better grade; however, no forgiveness procedure will apply. An accumulation of more than six (6) hours of C, D, F or unresolved I work is grounds for automatic dismissal from a degree program.

RECENTY OF WORK
Courses completed more than seven years prior to the term in which the degree is earned may not be used toward meeting degree requirements.

RESIDENCE REQUIREMENTS
At least 21 credits must be earned at UCF. Residence credits may be earned through enrollment in courses offered on campus, at UCF Centers or at other locations where UCF courses are taught by UCF faculty.

FINAL TERM REGISTRATION
Students must be registered in any term in which UCF faculty or facilities are utilized. Unless the graduate program certifies to the Office of the Registrar that no UCF resources will be utilized, a student must be registered in the term of graduation.

EXAMINATIONS
An end-of-program (final) comprehensive examination is required of all students. This examination may consist of a thesis defense or an examination of course work material or both.

APPLICATION FOR DEGREE
The student must file an Intent to Graduate form in the Office of the Registrar during the first week of the semester in which graduation is anticipated. If the student then fails to graduate that semester, the Intent to Graduate form must be refiled in the semester when graduation is next anticipated.

UCF EMPLOYMENT
Normally the employment of full-time graduate students will be limited to a half-time work load (20 hours/week).
LIBERAL STUDIES PROGRAM
Director: John Bolte
Coordinator: Dennis Kamrad

PURPOSE
The Liberal Studies curriculum is a university-wide general purpose program leading to the Bachelor of Arts in Liberal Studies or Bachelor of Science in Liberal Studies degree. The determination of whether the Arts or Science degree shall be awarded will be determined by the course areas selected.

The program is administered through the office of the Associate Vice President for Academic Affairs and is designed for liberal education and academic flexibility. It recognizes that, apart from the professional curricula, there are many combinations of courses which can be structured into meaningful programs to meet the needs of individual students.

The Liberal Studies program has two main purposes:
1. It accommodates students who desire a liberal, non-professional education encompassing several fields.
2. It provides a means for students to start a productive university education while delaying decision on professional curricula until the sophomore year.

Students who are undecided as to their major should pursue the Liberal Studies program until they can select a specific major area.

Students fulfilling the requirements for a degree in Liberal Studies must complete either the UCF Basic General Education Program or the General Education requirement at a Florida State Junior College. In addition, 6 semester hours of Advanced General Education Program courses are required.

The Liberal Studies student must complete:
1. A minimum of four course area groupings in which at least three disciplines are represented.
2. A minimum of 14 semester hours in each area with an additional 15 semester hours to be completed in a fifth area or used to strengthen one or more of the four course area groupings. Students choosing only four course area groupings may include a maximum of 8 semester hours of general electives in completing the fifth area.

In addition to the university-wide degree requirements, a minimum grade point average of 2.0 must be achieved in each course grouping.

The areas of Education and Engineering may be used twice provided a specific concentration corresponding to a traditional major is chosen for one of the area course groupings.

COURSE AREA GROUPINGS

AIR FORCE OR ARMY ROTC
For students who take and complete the Air Force or Army ROTC four-year or two-year upper division programs.

ALLIED HEALTH SCIENCES
Allied Health Sciences, Communicative Disorders, Medical Record Administration, Medical Technology, Nursing, Radiologic Sciences, Respiratory Therapy, and other Health Related Professions.

BEHAVIORAL SCIENCES
Anthropology, Psychology, Sociology, and Social Welfare.
<table>
<thead>
<tr>
<th>Discipline</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BIOLOGICAL SCIENCES</strong></td>
<td>Biology, Botany, Microbiology, and Zoology.</td>
</tr>
<tr>
<td><strong>BUSINESS ADMINISTRATION</strong></td>
<td>Accounting, Business Administration, Economics+, Finance, Management,</td>
</tr>
<tr>
<td></td>
<td>Marketing, and Quantitative Business Analysis.</td>
</tr>
<tr>
<td><strong>COMMUNICATION</strong></td>
<td>Journalism, Radio-Television, Speech, and general courses in Communication.</td>
</tr>
<tr>
<td><strong>EDUCATION</strong></td>
<td>Business Education, Library Science, Physical Education, Teaching</td>
</tr>
<tr>
<td></td>
<td>Analysis, Vocational Education, and selected courses from Elementary</td>
</tr>
<tr>
<td></td>
<td>and Secondary Education.</td>
</tr>
<tr>
<td><strong>ENGINEERING</strong></td>
<td>Selected courses from the Engineering core and departmental offerings.</td>
</tr>
<tr>
<td></td>
<td>A maximum of 9 semester hours from the following courses may be used</td>
</tr>
<tr>
<td></td>
<td>in the General Education Program and Liberal Studies program: EGN 4033,</td>
</tr>
<tr>
<td></td>
<td>4813, 4814, 4815, 4823, 4824, 4825, 4832, 4843, and 4844.</td>
</tr>
<tr>
<td><strong>FINE ARTS</strong></td>
<td>Art, Music and Theatre.</td>
</tr>
<tr>
<td><strong>HUMANITIES</strong></td>
<td>English, Foreign Literature, History, Humanities, Philosophy, and</td>
</tr>
<tr>
<td></td>
<td>Religion.</td>
</tr>
<tr>
<td><strong>LANGUAGES</strong></td>
<td>French, German, Italian, Russian, Spanish.</td>
</tr>
<tr>
<td><strong>MATHEMATICAL SCIENCES</strong></td>
<td>Computer Science, Mathematics, and Statistics.</td>
</tr>
<tr>
<td><strong>PHYSICAL SCIENCES</strong></td>
<td>Astronomy, Chemistry, Forensic Science, Geography (Physical), Geology,</td>
</tr>
<tr>
<td></td>
<td>Physics, and general courses in the Earth and Space Sciences.</td>
</tr>
<tr>
<td><strong>SOCIAL SCIENCES</strong></td>
<td>Allied Legal Services, Criminal Justice, Economics+, Geography (Social)</td>
</tr>
<tr>
<td></td>
<td>, Political Science, and Public Administration.</td>
</tr>
</tbody>
</table>

* Consult your advisor. Many Education courses require concurrent public school practicum.

+ This course shown in two areas.

The Liberal Studies disciplines are:

I. Business Administration  
II. Education  
III. Engineering  
IV. Health  
V. Fine Arts, Humanities, and Languages  
VII. Air Force or Army ROTC, Behavioral Sci., Communication, and Social Sciences
COLLEGE OF ARTS AND SCIENCES

UNDERGRADUATE PROGRAMS

Allied Legal Services (BA)
Anthropology (BA)
Art (BA)
Art (BFA)
Biological Science
  Biology (BS)
  Botany (BS)
  Limnology (BS)
  Microbiology (BS)
  Zoology (BS)
Chemistry (BS)
Communication (BA)
Computer Science (BS)
Criminal Justice (BA)
Economics (BA)
English (BA)
Film (BA)
Foreign Language Combination (BA)
Forensic Science (BS)
French (BA)

History (BA)
Humanities (BA)
Humanities and Fine Arts (BA)
Journalism (BA)
Mathematics
Music (BA)
Music Education (BA)
Philosophy (BA)
Physics (BS)
Political Science (BA)
Psychology (BA)
Public Administration (BA)
Radio-Television (BA)
Social Sciences (BS)
Social Work (BA)
Sociology (BA)
Spanish (BA)
Speech (BA)
Statistics (BS)
Theatre (BA)

GRADUATE PROGRAMS

Computer Science (Ph.D.)
Applied Sociology (MA)
Biological Science (MS)
Clinical Psychology (MS)
Communication (MA)
Computer Science (MS)

English (MA)
History (MA)
Industrial Chemistry (MS)
Industrial Psychology (MS)
Mathematical Science (MS)
Public Policy (MPP)

OTHER PROGRAMS

Predental
Premedical
Preoptometry

Prepharmacy
Prepodiatry
Preveterinary
Prelaw

COLLEGE OF ARTS AND SCIENCES

Dean: R. A. Llewellyn, HFA 509, Phone 275-2251
Associate Dean: J. P. Idox, HFA 509, Phone 275-2251
Associate Dean: J. B. Rollins, HFA 509, Phone 275-2251

The College of Arts and Sciences, the largest academic unit in the University, includes the following departments: Art, Biological Sciences, Chemistry, Communication, Computer Science, English, Foreign Language, History, Humanities, Philosophy
and Religion, Mathematics and Statistics, Music, Physics, Political Science, Psychology, Public Service Administration, Sociology, and Theatre.

In keeping with the aims of the University of Central Florida, the College is responsible for all programs in the broad areas of the humanities, the fine arts, the natural sciences, and the social sciences. The departments offer more than sixty baccalaureate, graduate, and preprofessional programs in these areas.

In addition to providing strong academic degree programs in the areas noted above, the College of Arts and Sciences functions in a service mode by making available a wide selection of courses designed to complement the offerings of the other four colleges of the University. These offerings include most of the courses necessary to satisfy the University's general education requirement for all students.

A student enrolled in the College as an undergraduate must fulfill all University degree requirements including that for general education, as well as the particular requirements set forth by the department for each area of specialization. To be certified for graduation, a student must achieve at least a "C" grade point average (2.0) in the courses of his or her major.

A student whose written or oral communication in any course is deemed unsatisfactory may be referred to the Dean by the instructor. Additional course work or an individual study program may be assigned consistent with the needs of the student and must be completed before the degree is granted.

Preprofessional Programs
The College of Arts and Sciences offers preprofessional programs in the health disciplines leading to further study in schools of dentistry, medicine, optometry, pharmacy, podiatry and veterinary medicine. They are administered through the Office of the Preprofessional Coordinator, located in the Dean's Office. Other preprofessional programs associated with the health related professions (i.e., the allied health sciences) are administered through the College of Health.

Prelaw
There is no preferred pattern for prelaw. Law schools accept superior students with a good liberal arts background, regardless of major field. A Bachelor of Arts or Bachelor of Science degree with approximately three-fourths representing theory content is typically required. The quality of undergraduate education for the legal profession, according to the Association of American Law Schools, is grounded in three basic skills and insights: comprehension and expression in words, critical understanding of the human institutions and values with which the law deals, and creative power of thinking. Law schools require that the Law School Admission Test (LSAT) be taken prior to consideration for admission. Advisement of prelaw students will be provided in the area where a major is chosen; for example, a prelaw student who wishes to emphasize political science should seek advisement in the Department of Political Science.

Interdisciplinary Studies
The College of Arts and Sciences offers a major in Humanities and Fine Arts for the student who desires a broad exposure to courses in the College without the need to specialize in one department. It is a flexible program whose purpose is a liberal education and general background in the Humanities and Fine Arts. The course requirements for the College Major are 24 upper division hours in one department and 24 upper division hours in two other departments with not less than 9 in any one. A typical program follows:

- Basic Program (general education and electives or AA Degree) 60 hours
  - Main area 24 hours
  - Secondary area 15 hours
  - Upper Division general education 6 hours
  - Electives 6 hours

Total 120 hours

Contact Dr. Paul Riley (HFA 409, Phone 275-2273) for information on this major.

HFA Administration Program
The College of Arts and Sciences in conjunction with the College of Business Administration offers a program which combines a major in one of the humanities or fine arts departments of the College of Arts and Sciences with a number of selected courses in the College of Business Administration. This combination of concentrations will prepare the
student to assume an administrative position in one of the fields of the humanities or fine arts and will also afford the opportunity of continuing on for a Master's Degree in Business. The required administration courses are in addition to the requirements for a major in one of the following departments: Art, English, Foreign Language, History, Humanities, Philosophy and Religion, Music or Theatre.

Contact Dr. Edward Hotaling (HFA 140, Phone 275-2867) for information.

Proficiency Requirements

All students, both freshmen and transfer students, who enroll in the College of Arts and Sciences, with a major in the Departments of Art, English, Foreign Language, History, Humanities, Philosophy and Religion, Music or Theatre are required to pass an English writing proficiency examination in order to graduate. This examination is given every semester and should be completed by transfer students before the last 30 semester hours of course work are begun and by four-year students during their sophomore year. Students must register with the English Department by the end of the second week of classes during the semester in which they plan to take the examination. Details of the nature of the test, time of testing, return of corrected tests, etc., may be obtained in the English Department.

Minor in Afro-American Studies

The College of Arts and Sciences offers a minor in Afro-American Studies consisting of a minimum of 16 semester hours. Required courses: AMH 3570, LIN 4612, LIT 4354, SOC 3720. The student should be advised by the program advisor prior to registration.

Natural Science Majors Requirement

In addition to meeting all University requirements, each degree program in the Departments of Biological Science, Chemistry, Computer Science, Mathematics and Statistics, and Physics must contain courses which will introduce the student to the three major scientific disciplines within the College; i.e., physical sciences, biological sciences, and mathematical and computer sciences. To satisfy this requirement, each student must take six courses distributed among the two scientific disciplines outside that of his major with a minimum of two courses in either discipline. Each department has identified a group of approved courses from which its majors may select in order to satisfy this College requirement. These courses will be of sufficient academic rigor to acquaint the student with both the philosophy and methodology of professionals within their disciplines. With proper justification a student may be permitted to utilize courses offered outside the College of Arts and Sciences to satisfy this distribution requirement by obtaining the prior approval of the Dean. Such requests must carry departmental approval before submission to the College of Arts and Sciences Academic Standards Committee which will then forward the request, with its recommendation, to the Dean.

Program Planning

Although suggested curricula are available in most areas, each student will plan his program in consultation with a faculty advisor appointed by the chairman of the major department or by the Dean of the College of Arts and Sciences.

DEPARTMENT OF ART

Acting Chairman: C. Wellman, FA 525, Phone 275-2676
Faculty: Chavda, Eyfells, Gaudnek, Lotz, Rivers, Skoglund

The curriculum in Art provides thorough grounding in visual expression and an opportunity for specialized professional preparation in art history and in the studio areas of drawing, painting, printmaking, photography, graphic design, sculpture, and ceramics, and combination specializations in drawing-printmaking, sculpture-ceramics and photography-printmaking.

The Department of Art offers programs leading toward both the Bachelor of Arts (B.A.) degree and the Bachelor of Fine Arts (B.F.A.) degree.

Visual Arts Forum Requirement: All majors in the Art Department are required to attend a minimum of 75% of the Visual Arts Forum events which are offered during the period of the student's matriculation in the department. Attendance is taken at each of these events.

The University reserves the right to hold for exhibition purposes work done in classes.
MINOR
The Department of Art offers a minor consisting of a minimum of 24 semester hours. Required courses are: ARH 2050, 2051, ART 2201, 2202, 2300, and nine semester hours of Art Specialization at the 3000-4000 level.

BACHELOR OF ARTS: ART
Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See page 68)
3. Required courses
   Varies with Specialization
4. Restricted electives
   Varies with Specialization
5. Electives
   To be selected primarily from upper level courses outside the Department, with the approval of the student's advisor

Total Semester Hours Required 120

AREAS OF SPECIALIZATION

1. Art History
   Required Courses
   ARH 2050, 2051, History of Art I, II 6 hours
   ART 2201C, 2202C, Design Fundamentals, I, II 6 hours
   Visual Arts Forum (attendance required) 0 hours
   Restricted Electives
   a) Any one:
      ART 4634C, Special Problems in Film Design (3) 3-4 hours
      PHI 3800, Aesthetics (4)
      THE 4072, Principles of Motion Picture Art (4)
   b) Studio Courses
      Any two 3000 or 4000 level studio courses 6 hours
      Specialization
      3000 and 4000 level courses in Art History 15 hours
   Language and Comprehensive Examination
   A satisfactory grade in a comprehensive art history examination and two years of a foreign language at the college level.

Total Semester Hours in Art Courses or approved cognates 36-37
Total Semester Hours Required 120

2. Art (Studio Areas)
   Required Courses
   ART 2201C, 2202C, Design Fundamentals I, II 6 hours
   ART 2300C, 2301C, Drawing Fundamentals I, II 6 hours
   ARH 2050, 2051, History of Art I, II 6 hours
   Visual Arts Forum (attendance required) 0 hours
   Restricted Electives
   a) Any one:
      ART 4634C, Special Problems in Film Design (3) 3-4 hours
      PHI 3800, Aesthetics (4)
      THE 4072, Principles of Motion Picture Art (4)
   b) Art History
      Any 3000 and 4000 level Art History course 3 hours
   c) Upper Division
      Electives in Art Specialization
      4-6 hours

3000 and 4000 level courses in one Studio Area, not to include any required courses stated above (see Areas of Studio Specialization below)
Portfolio Requirement
For the B.A. degree a selective portfolio of work, representing the student's accomplishment in the major Studio Specialization and acceptable to the Studio Faculty, will be submitted during the final Senior semester.

Total Semester Hours in Art Courses or approved cognates 40-43
Total Semester Hours Required 120

Areas of Studio Specialization: Ceramics, Drawing, Graphic Design, Painting, Photography, Printmaking, Sculpture.
BACHELOR OF FINE ARTS: ART

The B.F.A. degree is recommended for those students who intend to pursue work in the Arts at the graduate level. The procedure for admission to the B.F.A. degree program requires a formal application and portfolio submission by the student to the Department Chairman and the Studio Faculty no earlier than the first semester of the student’s senior year (upon completion of 90 semester hours). After successfully petitioning for admission to the B.F.A. degree program, the student must complete no less than 30 semester hours at UCF, of which at least 12 semester hours must be in Art courses. A senior exhibition and/or portfolio, acceptable to the Art Faculty, is required for graduation.

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See page 68)
3. Required Courses
   - ARH 2050, 2051, History of Art I, II, 6 hours
   - ART 2201C, 2202C, Design Fundamentals I, II, 6 hours
   - ART 4894C, Special Problems in Film Design, 3 hours
   - ART 2300C, 2301C, Drawing Fundamentals I, II, 6 hours
   - ART 3330C, 3331C, Intermediate Drawing I, II, 6 hours
   - ART 4965, Studio and Exhibition, 3 hours
   - Visual Arts Forum (attendance required), 0 hours
4. Restricted Electives
   a) Art History and Theory
      Any 3000 and 4000 level Art History and Theory Courses, 12 hours
   b) Either:
      PHI 3800, Aesthetics (4), or 4 hours
      THE 4072, Principles of Motion Picture Art (4)
   c) Specialization
      3000 and 4000 level courses in on Studio Area, not to include any required courses listed above.
      The combination specializations in Drawing-Printmaking, Sculpture-Ceramics, and Photography-Printmaking require 9 or 12 semester hours of upper division work in each half of the combinations: a total of 21 semester hours for the combination.
5. Electives
   To be selected primarily from upper level courses outside the Department, with the approval of the student’s advisor.
   Total Semester Hours in Art Courses of approved cognates, 61-67
   Total Semester Hours Required, 120

DEPARTMENT OF BIOLOGICAL SCIENCES

Chairman: D. Vickers, BL 211, Phone 275-2141
Faculty: Charba, Ehrhart, Ellis, Gennaro, Koevenig, Kuhn, Laird, Miller, Osborne, Snelson, Stout, Sweeney, Sweet, Taylor, Washington, White, Whittier, Wodzinski

The Department of Biological Sciences offers a Bachelor of Science in Biological Science with options in biology, botany, limnology, microbiology, and zoology, a minor in Biology, as well as the Master of Science in Biological Science.

In an age when new discoveries are reported daily on both celestial and molecular levels, the study of living organisms has gained new importance among the sciences.
Students in the life sciences find themselves in demand in teaching and many phases of research. The Core Curriculum required of all Biological Sciences majors provides a background in the chemical and mathematical sciences in addition to Biology; thus allowing career opportunities for graduates in areas outside their major. In addition, an increasing number of graduates are furthering their education in professional or graduate schools. Through the judicious selection of electives in consultation with a faculty advisor, a subspecialty, such as physiology, may be emphasized in one or more of the options outlined below.

MINOR
The Department of Biological Sciences offers a minor in Biology consisting of a minimum of 27 hours.

Required courses (17 hours); BOT 1010C, BSC 1010C, MCB 2013C, PCB 3063C, PCB 3063L, and ZOO 1010C.

Restricted Electives (10 hours minimum): At least one course must be selected from each group:

Group I—Ecology: MCB 4603C or PCB 3043 and PCB 3043L
Group II—Physiology: BOT 4503C, MCB 4404C, PCB 3023, or PCB 4723.

Group III—Electives: Any 3000 level or above course(s) designed for majors in Biological Sciences, exclusive of those listed in Groups I and II.

To be eligible for a minor in biology, a student must have a GPA of at least 2.0 in all biological science courses subject to the following constraints:

A. No CLEP or TSD credits may be used
B. No D grades from other institutions will be accepted.

BACHELOR OF SCIENCE: BIOLOGICAL SCIENCE

Degree Requirements
1. University graduation requirements
(See pages 41-43)
2. Special college and/or department requirements
(See pages 68 and 70)

To be eligible for a major in any of the biological sciences, a student must have a GPA of at least 2.0 in all biological science courses subject to the following constraints: A. No CLEP or TSD credits may be used; B. No D grades from other institutions will be accepted.

3. Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOT 1010C</td>
<td>General Botany</td>
<td>3</td>
</tr>
<tr>
<td>BSC 1010C</td>
<td>Basic Biology</td>
<td>4</td>
</tr>
<tr>
<td>CHM 2045, 2046</td>
<td>Chemistry Fundamentals I, II</td>
<td>7</td>
</tr>
<tr>
<td>CHM 2046L</td>
<td>Chemistry Fundamentals Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHM 3210, 3211</td>
<td>Organic Chemistry I, II</td>
<td>6</td>
</tr>
<tr>
<td>CHM 3211L</td>
<td>Organic Laboratory Techniques</td>
<td>2</td>
</tr>
<tr>
<td>MCB 2013C</td>
<td>General Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>MCB 4404C</td>
<td>Microbial Metabolism</td>
<td>3-4</td>
</tr>
<tr>
<td>PCB 3023</td>
<td>Cell Physiology</td>
<td></td>
</tr>
<tr>
<td>PCB 3043L</td>
<td>Principles of Ecology/with Lab</td>
<td>4</td>
</tr>
<tr>
<td>PCB 3083L</td>
<td>Genetics/with Lab</td>
<td>4</td>
</tr>
<tr>
<td>PHY 2050C, 2051C</td>
<td>College Physics I and II</td>
<td>8</td>
</tr>
<tr>
<td>STA 3023</td>
<td>Fundamentals of Probability &amp; Statistics</td>
<td>3-4</td>
</tr>
<tr>
<td>ZOO 1010C</td>
<td>General Zoology</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Restricted Electives
(See specialization requirement listed below.)

MATH
A minimum of 6 semester hours in MATH selected in consultation with the student's advisor or the successful completion of a course in college level calculus. Courses of a difficulty level less than college algebra (MAC 1104) may not be used to satisfy this requirement. 6 hours
5. Electives
Number of hours varies with the specialization.

<table>
<thead>
<tr>
<th>AREAS OF SPECIALIZATION</th>
<th>Total Semester Hours Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Students desiring to specialize in the areas identified below shall include the following courses in completing degree requirements.)</td>
<td></td>
</tr>
</tbody>
</table>

1. Biology
   - Restricted Biology, Botany, Chemistry, Microbiology, or Zoology, to be selected with student's advisor from courses numbered 3000 or above.

2. Botany
   - BOT 3223C Plant Anatomy 3 hours
   - BOT 3303C Plant Kingdom 4 hours
   - BOT 4503C Plant Physiology 4 hours
   - BOT 4713C Plant Taxonomy 5 hours

3. Limnology
   - COP 1110 Computer Programming 3 hours
   - PCB 4302C Limnology I 4 hours
   - PCB 4303C Limnology II 4 hours
   - ZOO 4453C Ichthyology 4 hours

4. Microbiology
   - BCH 4053, 4054 Biochemistry I, II 6 hours
   - CHM 3121C Analytical Chemistry 5 hours
   - MCB 3203C Pathogenic Microbiology 4 hours
   - MCB 4114C Microbial Systematics & Diagnosis 4 hours
   - MCB 4404C Microbial Metabolism 4 hours
   - MCB 4603C Environmental Microbiology 4 hours
   - PCB 3223 Immunology & Serology 4 hours

5. Zoology
   - PCB 4723C Animal Physiology 4 hours
   - ZOO 3303C Vertebrate Zoology 4 hours
   - ZOO 3713C Comparative Vertebrate Anatomy 5 hours
   - ZOO 4203C Invertebrate Zoology 4 hours

DEPARTMENT OF CHEMISTRY
Chairman: G. Mattson, SC 117, Phone 275-2246
Faculty: Baker, Clausen, Cunningham, Gupton, Hertel, Idoux, Juge, Knudson, Kujawa (Geology), Madsen, Mattson, McGee (Forensic Science)

The Department of Chemistry offers a Bachelor of Science in Chemistry, Bachelor of Science in Forensic Science, and the Master of Science in Industrial Chemistry.
Completion of the undergraduate program in chemistry, which is accredited by the American Chemical Society, provides access to a number of career opportunities in industry, government service, or education. Positions may entail basic or applied research, product development or control, sales, management or teaching. The program
may lead to further study at the graduate level in analytical, biological, inorganic, organic, physical, or industrial chemistry or in related scientific areas. With appropriate choice of electives it also constitutes excellent preparation for the professional schools of dentistry, medicine, pharmacy, podiatry, or veterinary medicine.

MINOR
The Department of Chemistry offers a minor consisting of a minimum of 28 semester hours.

Required courses (21 hours): CHM 2045, 2046, 2046L, 3210, 3211, 3211L, and 3212C.

Restricted electives (7 hours minimum): At least one course must be selected from group I and the remaining from group I and/or II:

Group I: CHM 3212L, 4130C; BCH 4103L; CHS 3531
Group II: BCH 4053, 4054; CHM 3410, 3411, 4220; CHS 4110C, 4200

BACHELOR OF SCIENCE: CHEMISTRY

Degree Requirements

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 68 and 75)

3. Required Courses
   CHM 2045, 2046
   CHM 2046L
   CHM 3210, 3211
   CHM 3211L, 3212L
   CHM 3121C
   CHM 3410, 3411
   CHM 3411L
   CHM 4610
   CHM 4130C
   CHM 4912
   ENC 3241
   MAC 3311, 3312, 3313
   PHY 2040, 2041
   2040L, 2041L
   STA 3023

   Chemistry Fundamentals I, II
   Chemistry Fundamentals Laboratory
   Organic Chemistry I, II
   Organic Laboratory Techniques I, II
   Analytical Chemistry
   Physical Chemistry I, II
   Physical Chemistry Laboratory I
   Inorganic Chemistry
   Advanced Analytical Laboratory Technique
   Undergraduate Research
   Professional Report Writing II
   Calculus with Analytic Geometry I, II, III
   General Physics I, II
   Fundamentals of Probability and Statistics

4. Restricted Electives
   a. Biological Sciences
      BSC 1010C
      Basic Biology
   b. COP 1110
      Computer Programming
      or
      COP 3215
      Programming and Numerical Methods
      or
      CDA 4012
      Computer Interfacing for Scientists
   c. PHY 3752C
      Physics of Scientific Instruments
   d. Any two
      BCH 4053
      Biochemistry I
      BCH 4054
      Biochemistry II
      CHM 4220
      Advanced Organic Chemistry
      CHM 4580
      Advanced Physical Chemistry
      CHM 5710
      Chemical Structure I
      CHS 4110C
      Nuclear and Radio Chemistry
      CHS 4200
      Concepts in Industrial Chemistry
      CHS 5250
      Chemical Synthesis I

5. Electives
   Two years of German is recommended for those students intending to pursue graduate studies.

   Total Semester Hours Required 128
FORENSIC SCIENCE PROGRAM

Forensic Science is the profession which serves the scientific needs of the justice system. The program at UCF has been designed to provide the student with an educational background in the professional specialty of criminalistics.

The principal job of the forensic scientist is to scientifically examine physical evidence gathered at the scene of a suspect criminal action. The criminalist may work on physical evidence such as blood, hairs, fibers, or pharmaceutical and clandestine drug preparations. Upon completion of an investigation the forensic scientist presents his findings in court. The goal of the Forensic Science program is to prepare students for this demanding profession.

BACHELOR OF SCIENCE: FORENSIC SCIENCE

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 68 and 75)
3. Required Courses
   BSC 1010C    Basic Biology                   4 hours
   CHM 2045, 2046 Chemistry Fundamentals I, II  7 hours
   CHM 2046L    Chemistry Fundamentals Laboratory 1 hour
   CHM 3210, 3211 Organic Chemistry I, II        6 hours
   CHM 3211L    Organic Laboratory Techniques I   2 hours
   CHM 3121C    Analytical Chemistry             5 hours
   CHS 3511     Criminalistics I                 3 hours
   CHS 3531     Forensic Analysis Techniques      3 hours
   CHS 4591     Forensic Science Internship       6 hours
   COP 1110     Computer Programming              3 hours
   ENC 3355     Professional Report Writing II    3 hours
   CHM 3410     Physical Chemistry                4 hours
   CHM 4130     Advanced Analytical Chemistry     4 hours
   MAC 3253, 3254 Applied Calculus I, II         8 hours
   PHY 2050C, 2051C College Physics I, II         8 hours
   PHY 3725C    Physics of Scientific Instruments 4 hours
   STA 3023     Fundamentals of Probability & Statistics 4 hours

4. Restricted Electives
   The intent of the restricted electives is to provide the major with an opportunity to select in consultation with his/her advisor, a minimum of 13 hours of coursework which will complement the student’s specialized program of study in the major field. These courses will include BOT 1010C, General Botany or MCB 2013C, General Microbiology, with the remainder normally selected from upper division courses on science or forensic science. Exceptions to these stipulations must be approved by the student’s advisor.

5. Electives
   Total Semester Hours Required          3 hours  120

DEPARTMENT OF COMMUNICATION

Chairman: R. Buchanan, FA 234B, Phone 275-2681
Faculty: Arnold, Butler, Davis, Fedler, Hall, Hightower, Hoglin, Johnson, Kissel, Meeske, Morgan, O'Keefe, Pryor, Smith, Tanz, Taylor, Wycoff

The Department of Communication offers degree programs both in general communication and in specialization areas within the discipline of communication. Bachelor of Arts programs are available in communication, film, journalism, radio-television and speech communication.

An internship program is available to qualified students. This program earns elective credits.
credit only and cannot be applied to the major requirement in a specific Communication
degree program.
Any student contemplating graduate study should be aware of special requirements
in some graduate schools, such as foreign languages, statistics and computer program-
ming.
Communication Proficiency: Students will be required to attain a satisfactory score
on a departmental English proficiency test encompassing grammar, punctuation, spell-
ing and word usage. Additional information is available from faculty advisors.
MINOR
The Department of Communication offers the following minors consisting of a mini-
imum of 16 semester hours in each minor.
1. Film
   Required courses: FIL 3200 (4), FIL 4201 (4), FIL 3300 (4), Either RTV 3000 (3) or JOU
   3600 (4).
2. General Communication
   COM 3311' (3) and 15 semester hours selected from the following courses: SPC 3425
   (3), SPC 4440 (3), SPC 3445 (3), SPC 4540' (3), COM 3110 (3), COM 3120 (3).
3. Organizational Communication
   Required courses: COM 3110 (3), SPC 3445 (3), SPC 3301 (3), SPC 3425 (3), SPC
   4330 (3), COM 3120 (3).
4. Journalism: Advertising/Public Relations Sequence
   PUR 4000 (3), ADV 4000 (3), ADV 4101 (4), ADV 4003 (4), ADV/PUR practicum 4941
   (3).
5. Journalism: News Editorial Sequence
   Required courses: JOU 3100' (4), JOU 3200' (4), MMC 4200 (3), MMC 4602 (4) or JOU
   3003 (3), plus JOU elective (writing course) (3 hrs.).
6. Radio-TV
   Required courses: RTV 3000 (3), RTV 3200 (4), RTV 4700 (3); Choose one—FIL 3200
   (4), RTV 3210 (4); Choose one—RTV 3300 (5), RTV 3501 (4).
7. Speech Communication
   Required courses: COM 3311' (3) and 15 semester hours from the remaining courses;
   ORI 3001 (3), SPC 3511 (3), SPC 3601 (3), SPC 3250 (3), SPC 3542 (3), SPC 3301 (3),
   SPC 4330 (3), SPC 3425 (3).
'Prerequisite of Departmental English proficiency test required.

BACHELOR OF ARTS: COMMUNICATION
Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 68 and 77)
3. Required Courses
   COM 3311' Communication as a Behavioral Science 3 hours
   SPC 4330 Non-verbal Communication 3 hours
   SPC 4540 Attitudes and Communication 3 hours
4. Restricted Electives
5. Electives
   Total Semester Hours Required 120

AREAS OF SPECIALIZATION
1. General Communication Requirements
   COM 3301 Interpersonal Communication 3 hours
   SPC 3542 Persuasion 3 hours
   SPC 3425 Group Interaction 3 hours
   MMC 4200 Legal Responsibilities 3 hours
   Select one course from history:
   RTV 3000 Foundations of Broadcasting 3 hours
   JOU 3003 History of American Journalism 3 hours
Select 2 courses from motivation:
- PUR 4000  Public Relations
- ADV 4000  Principles of Advertising
- RTV 4402  Broadcast Criticism
- SPC 3250  Speech and Human Relations

Select 2 courses from research:
- MMC 4609  Opinion and the Mass Media
- SPC 4440  Group Dynamics
- SPC 4350  Studies in Listening
- COM 4918  Research Planning

2. Organizational Communication Requirements
- COM 3110  Business and Professional Communication
- SPC 3445  Leadership
- SPC 3425  Group Interaction
- SPC 4440  Group Dynamics
- SPC 4350  Studies in Listening
- SPC 3301  Interpersonal Communication
- COM 3120  Organizational Communication
- PUR 4000  Public Relations

Prerequisite of Departmental English proficiency test required.

BACHELOR OF ARTS: FILM (RTV)

1. University graduation requirements
(See pages 41-43)
2. Special college and/or department requirements
(See pages 68 and 77)
3. Required courses
- COM 3311  Communication as a Behavioral Science
- RTV 3000  Foundations of Broadcasting
- RTV 3200  Broadcast Techniques
- FIL 3400  History of Motion Picture
- JOU 3600  Photojournalism
- FIL 3200  Film Production
- FIL 4201  Film Production II
- FIL 3300  Film Documentary
- MMC 4200  Communication Law

4. Restricted Electives
Nine (9) hours from Communication Department offerings

Total Semester Hours Required 120

Prerequisite of Departmental English proficiency test required.

BACHELOR OF ARTS: JOURNALISM

1. University graduation requirements
(See pages 41-43)
2. Special college and/or department requirements
(See pages 68 and 77)
3. Required Courses
- COM 3311  Communication as a Behavioral Science
- JOUR 3100  News Reporting
- JOU 3200  News Editing

Prerequisite of Departmental English proficiency test required.
ADV 4000  Principles of Advertising  3 hours
MMC 4602  Social Responsibilities of the Mass Media  3 hours
MMC 4200  Legal Responsibilities of the Mass Media  3 hours

4. Restricted Electives
   Students must select and complete one of the areas of specialization listed below, plus COM 3311'.

5. Electives
   Total Semester Hours Required  120

'Prerequisite of Departmental English proficiency test required.

AREAS OF SPECIALIZATION
1. News-Editorial Sequence: Required Courses
   JOU 3100'  News Reporting  4 hours
   JOU 3200'  News Editing  4 hours
   JOU 4104'  Public Affairs Reporting  4 hours
   MMC 4200  Mass Com Law  3 hours
   MMC 4602  Contemporary Media Issues  3 hours
   JOU 3003  History of American Journalism  3 hours
   JOU 4300'  Feature Writing  4 hours
   VIC 3001  Visual Com  3 hours
   JOU elective or ADV 4000  3 hours

Recommended:* Journalism majors find an internship; work on The Future; complete a minor.
2. ADV/PUR Track: Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOU 3100</td>
<td>News Reporting</td>
<td>4</td>
</tr>
<tr>
<td>PUR 4000</td>
<td>Principles of Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>ADV 4000</td>
<td>Principles of Advertising</td>
<td>3</td>
</tr>
<tr>
<td>ADV 4003</td>
<td>Ad Layout and Prep.</td>
<td>4</td>
</tr>
<tr>
<td>ADV 4101</td>
<td>Ad Copy and Campaigns</td>
<td>4</td>
</tr>
<tr>
<td>ADV 4103</td>
<td>Radio-TV Advertising</td>
<td>3</td>
</tr>
<tr>
<td>VIC 3001</td>
<td>Photo Communication</td>
<td>3</td>
</tr>
<tr>
<td>MMC 4200</td>
<td>Mass Com. Law</td>
<td>3</td>
</tr>
<tr>
<td>COM 3110</td>
<td>Business &amp; Prof. Communication</td>
<td>3</td>
</tr>
<tr>
<td>ADV/PUR</td>
<td>Practicum (4941)</td>
<td>3-6</td>
</tr>
</tbody>
</table>

*JOU, ADV, and PUR internship credit should be registered under MMC 4945. JOU internship credit is limited to 3 semester hours and is counted only as a general elective credit toward graduation. Students in the ADV/PUR track may elect to do a second different internship for an additional 3 elective hours. Check with your advisor before registering for an internship.

1Prerequisite of Departmental English proficiency test required.

BACHELOR OF ARTS: RADIO-TELEVISION

Degree Requirements

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 68 and 77)

3. Required courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 3311</td>
<td>Communication as a Behavioral Science</td>
<td>3</td>
</tr>
<tr>
<td>RTV 3200</td>
<td>Broadcast Techniques</td>
<td>4</td>
</tr>
<tr>
<td>RTV 3000</td>
<td>Foundations of Broadcasting</td>
<td>3</td>
</tr>
<tr>
<td>RTV 4403</td>
<td>R/TV and Society</td>
<td>3</td>
</tr>
<tr>
<td>RTV 4700</td>
<td>Broadcast Regulations</td>
<td>3</td>
</tr>
<tr>
<td>RTV 4402</td>
<td>Broadcast Criticism</td>
<td>3</td>
</tr>
<tr>
<td>RTV 4800</td>
<td>Broadcast Management</td>
<td>3</td>
</tr>
<tr>
<td>JOU 3100</td>
<td>News Reporting</td>
<td>4</td>
</tr>
</tbody>
</table>

4. Restricted Electives:

   Production—Choose one course

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTV 3210</td>
<td>Radio Production</td>
<td>4</td>
</tr>
<tr>
<td>RTV 3220</td>
<td>Television Production</td>
<td>4</td>
</tr>
<tr>
<td>FIL 3200</td>
<td>Film Production</td>
<td>4</td>
</tr>
</tbody>
</table>

   Writing—Choose one course

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTV 3300</td>
<td>Broadcast Journalism I</td>
<td>4</td>
</tr>
<tr>
<td>RTV 3501</td>
<td>Broadcast Continuity and Programming I</td>
<td>4</td>
</tr>
</tbody>
</table>

5. Electives

   Student must select nine (9) additional hours from Communication Department offerings.

   Total Semester Hours Required 120

1Prerequisite of Departmental English proficiency test required.

BACHELOR OF ARTS: SPEECH

Degree Requirements

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 68 and 77)

3. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 3311</td>
<td>Communication as a Behavioral Science</td>
<td>3</td>
</tr>
<tr>
<td>SPC 3301</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
</tbody>
</table>
SPC 3542 Persuasion: Motivation 3 hours
SPC 3511 Argumentation & Debate 3 hours
SPC 3425 Group Interaction 3 hours
SPC 3250 Speech and Human Relations 3 hours
SPC 3601 Platform Speaking 4 hours
SPC 4330 Non-verbal 3 hours

4. Restricted Electives:
Select 6 hours from research area:
SPC 3445 Leadership 3 hours
SPC 4440 Group Dynamics 3 hours
SPC 4540 Attitudes and Communication 3 hours
SPC 4350 Listening 3 hours
COM 4918 Research Planning 3 hours

Select 5-6 hours from Rhetoric:
SPC 4651 Rhetoric of Social and Political Action 3 hours
ORI 3001 Interpretation I 3 hours
SPC 3410 Parliamentary Procedure 1 hour
LIN 2200 Phonetics 4 hours
SPC 5200 Evolution of Communication Theory 3 hours

5. Electives
Student must select six (6) additional hours from Communication Department offerings.

Total Semester Hours Required 120

DEPARTMENT OF COMPUTER SCIENCE
Chairman: T. Frederick, FA 461-B, Phone 275-2341

The Department of Computer Science offers courses and programs leading to Bachelor of Science, Master of Science (see page 117 for M.S. program) and Doctor of Philosophy (see page 118 for Ph.D. program) degree in Computer Science. In addition, the department offers two minors: (1) Computer Science for Business Majors, and (2) a general minor in Computer Science.

Computer science strives to meet the computer personnel needs of the scientific, business and industrial community by producing graduates with a broad base of formal courses as well as a specialization in selected areas. In addition, the department conducts research in programming systems/languages, information systems, computer architecture, computational methods, and other areas.

Departmental computing facilities include four computer laboratories all designed for “hands on” use by students. The Department's Microcomputer Laboratory contains a ZILOG Z-80 Developmental System, four Z-80 production machines, a CROMEMCO System 3 and eight Apple II Systems. The Minicomputer Lab houses a 40 terminal DIGITAL VAX 11/780. In addition, there are terminals to a Harris 550 Minicomputer. The Large Scale Lab has batch and interactive access to AMDAHL V6, CDC Cyber and UNIVAC 1100 machines. Finally, the Graphics Research Lab contains a TEKTRONIX 4052 with a hard copy unit interfaced to the HARRIS via a 9600 baud line.

In addition to the degree requirements for a B.S. in Computer Science listed below, the following standards are required by the department for graduation.
1. A minimum GPA of 2.00 in all courses used to satisfy the requirements for the major in Computer Science.
2. A minimum GPA of 2.00 in computer science courses used to satisfy the requirements for the major in Computer Science.
3. The above requirements apply not only to the overall program, but also to the courses taken at UCF.
MINORS

The Department of Computer Science offers the following minors consisting of a minimum of 18 semester hours in each minor.

1. Computer Science for Business Majors
   Required courses (15 hours): CAP 3001, 3002, 3006, 3007, COP 3120.
   Restricted electives (3 hours minimum): ACC 5421, CIS 4112, COP 1110, 2510, 2511, 3402, ECO, 4412, FIN 3453, MAC 3233, 3311, 3312, 3313, MAN 4510, 4722, 4724, MAR 3613, MAS 3113, STA 4102, 4163.

2. Computer Science
   Required courses (12 hours): COP 2510, 2511, 3402, 3522, 4530.
   Restricted Electives (minimum 6 hours): CIS 4112, CNM 4110, COP 3121, 3404, 4550, 4620, COT 4001.

BACHELOR OF SCIENCE: COMPUTER SCIENCE

Degree Requirements

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 68 and 83)
   Laboratory Course in Biological Sciences 3-4 hours
   ENC 3241 (Professional Report Writing II) is required 3 hours

3. Required courses: Courses used to satisfy the requirements for the major can be counted only once in the major.
   Computer Science
   COP 2510 Programming I 3 hours
   COP 2511 Programming II 3 hours
   COP 3402C Assembly Language Programming 3 hours
   COP 3404 Computer Systems Concepts/Programming 3 hours
   COT 3000 Introduction to Discrete Structures 3 hours
   COP 4530 Data Structures 3 hours
   Mathematics and Statistics
   MAC 3311 Calculus with Analytic Geometry I 4 hours
   MAC 3312 Calculus with Analytic Geometry II 4 hours
   STA 3023 Fundamentals of Probability & Statistics 3 hours
   Physics and Engineering
   PHY 2040 University Physics I 3 hours
   PHY 2041 University Physics II 3 hours
   PHY 2041L University Physics Laboratory II 1 hour
   EEL 3341C Introduction to Digital Circuits 3 hours

4. Restricted Electives
   A minimum of 28 semester hours of courses as specified in one of the five areas of specialization.

5. Electives
   The number of hours varies with the specialization.
   Total Semester Hours Required 120

AREAS OF SPECIALIZATION

1. General Computer Science. Students desiring to specialize in the area must complete a minimum of 28 hours as follows:
   Group A (All courses listed)
   CDA 4102 Introduction to Computer Architecture 3 hours
   CNM 4110 Numerical Calculus 3 hours
   COP 4550 Programming Languages I 3 hours
   COP 4620 Programming Systems 3 hours
   COT 4001 Discrete Computational Structures 3 hours
   Group B (A minimum of 9 hours)
   CAP 5722 Computer Graphics Systems I 3 hours
   CIS 4112 Databases 3 hours
COP 3121  COBOL Programming  3 hours
COP 5554  Programming Languages II  3 hours
MAC 3313  Calculus with Analytic Geometry III  4 hours
MAP 3302  Differential Equations I  3 hours
MAS 3113  Matrices  4 hours
MHF 3104  Boolean Algebra  3 hours
STA 4163  Statistical Methods I  3 hours

Group C
Courses taught by the Department of Computer Science numbered 4000 or higher.

2. Programming and Systems. Students desiring to specialize in the area must complete a minimum of 28 hours, as follows:

Group A (All courses listed.)
CDA 4102  Introduction to Computer Architecture  3 hours
CIS 4112  Databases  3 hours
COP 4550  Programming Languages I  3 hours
COP 4620  Programming Systems  3 hours
COT 4001  Discrete Computational Structures  3 hours

Group B (A minimum of 9 hours)
CAP 5722  Computer Graphics Systems I  3 hours
CDA 4161  Programming for Large Scale Digital Systems  3 hours
COP 3121  COBOL Programming  3 hours
COP 5554  Programming Languages II  3 hours
COP 5613  Operating System Design Principles  3 hours
MAC 3313  Calculus with Analytic Geometry III  4 hours
MAS 3113  Matrices  4 hours
STA 4163  Statistical Methods I  3 hours

Group C
Courses taught by the Department of Computer Science numbered 4000 or higher.

3. Scientific Applications Programming. Students desiring to specialize in the area must complete a minimum of 28 hours, as follows:

Group A (All courses listed.)
CNM 4110  Numerical Calculus  3 hours
COT 4001  Discrete Computational Structures  3 hours
MAC 3313  Calculus with Analytic Geometry III  4 hours
MAP 3302  Differential Equations I  3 hours
MAS 3113  Matrices  4 hours
or
MAS 3104  Linear Algebra  4 hours

Group B (A minimum of 9 hours.)
CAP 5722  Computer Graphics Systems I  3 hours
CDA 4102  Introduction to Computer Architecture  3 hours
CNM 5142  Computational Methods/Linear Systems  3 hours
COP 4550  Programming Languages I  3 hours
COP 4620  Programming Systems  3 hours
MHF 3104  Boolean Algebra  3 hours
STA 4163  Statistical Methods I  3 hours

Group C
Courses taught by the Department of Computer Science numbered 4000 or higher.

4. Business Applications Programming. Students desiring to specialize in the area must complete a minimum of 28 hours as follows:

Group A (All courses listed.)
CIS 4112  Databases  3 hours
CIS 4323  Data Processing Systems Analysis & Design  3 hours
CIS 4324  Data Processing Systems Implementation  3 hours
COP 3121  COBOL Programming  3 hours

Group B (A minimum of 15 hours with at least 3 courses selected from [1] and at least 2 courses from [2].)
[1] COP 4102  Introduction to Computer Architecture  3 hours
COP 4550 Programming Languages I 3 hours
COP 4620 Programming Systems 3 hours
COP 5554 Programming Languages II 3 hours
MAS 3113 Matrices 4 hours
STA 4102 Computer Processing Statistical Data 3 hours
STA 4163 Statistical Methods I 3 hours

Group C
Courses taught by the Department of Computer Science numbered 4000 or higher.
5. Computer Architecture. Students desiring to specialize in the area must complete a minimum of 28 hours as follows:
   Group A (All courses listed.)
   CDA 4102 Introduction to Computer Architecture 3 hours
   CDA 4142 Microcomputer Organization 3 hours
   CDA 4143 Microcomputer Interfacing/Software 3 hours
   CDA 4144 Microcomputer Interfacing 3 hours
   COP 4620 Programming Systems 3 hours

   Group B (A minimum of 9 hours.)
   CAP 5722 Computer Graphics Systems I 3 hours
   CDA 5106 Advanced Computer Architecture I 3 hours
   CIS 4112 Databases 3 hours
   COP 4550 Programming Languages I 3 hours
   COT 4001 Discrete Computational Structures 3 hours
   EEL 4342C Introduction to Digital Circuits & Systems 4 hours
   EEL 4701C Digital Systems Organization 4 hours
   MAC 3313 Calculus with Analytic Geometry III 4 hours
   or
   MAS 3113 Matrices 4 hours
   MHF 3104 Boolean Algebra 3 hours

Group C
Courses taught by the Computer Science Department numbered 4000 or higher.

MAJOR IN ECONOMICS
Contact Person: D. Dees, CB 303, Phone 275-2492

The Bachelor of Arts Program is designed to permit flexibility in course selection to the Economics major not planning a career in business. Although all economics courses are offered and administered by the College of Business Administration, they are available to students majoring in economics in the College of Arts and Sciences. Successful completion of this program leads to the Bachelor of Arts degree with a major in Economics.

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 68 and 85)
3. Required courses
   ECO 2023 Principles of Microeconomics 3 hours
   ECO 2013 Principles of Macroeconomics 3 hours
   ECO 3101 Intermediate Price Theory 3 hours
   ECO 3203 Aggregate Economic Conditions Analysis 3 hours
   ECO 3411 Quantitative Methods and Business Decision Analysis 3 hours

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4. Restricted Electives
   a. Select six
      - ECO 3702 International Economics 3 hours
      - ECO 4224 Money: Issues and Analysis 3 hours
      - ECO 4303 History of Economic Thought 3 hours
      - ECO 4412 Economic Statistics and Econometrics 3 hours
      - ECO 4503 Economics of the Public Sector 3 hours
      - ECP 3203 Contemporary Labor Economics 3 hours
      - ECP 3424 The Economics of Regulated Industries 3 hours
      - ECP 3433 Transportation Economies 3 hours
      - ECP 4403 Business, Government & Industrial Organization 3 hours
      - ECP 4615 Economics of Urban and Regional Problems 3 hours
      - ECP 4703 Managerial Economics 3 hours
      - ECS 4003 Comparative Economic Systems 3 hours
      - ECS 4013 Economic Development 3 hours
   b. Twenty-seven hours of additional courses, including the completion of a minor from one of the following areas: Computer Science, Mathematics, Statistics, or the Social and Behavioral Sciences.

5. Electives
   Total Semester Hours Required 120

DEPARTMENT OF ENGLISH
Chairman: R. Grove, FA 432, Phone 275-2212
Faculty: Adicks, Barnes, Brown, Donnelly, Hartman, McCown, Omans, Price, Schiffhorst, Sommer, Umphrey, Wyatt

The UCF English Department is responsible for the effective teaching of literature in English, including World Literature, as well as expository and creative writing. It serves not only the special needs of those students concentrating in literature, writing, and linguistics, but also the broad needs of the University by offering courses in expository writing and literature to students from other departments.

MINOR
The Department of English offers two minors, one in English and one in Technical Editing. Both minors require 21 semester hours (of which 12 semester hours must be completed at UCF).

   English Minor, required courses: 12 semester hours selected from ENL 2010, 3021, AML 2011, 3020, ENL 3273, LIT 2110, 3120. The student must complete 9 additional semester hours of English courses chosen by the student.

   Technical Editing Minor, required courses: 12 semester hours selected from ENC 3310, 3311, 3341, 3210/41, CRW 3410, 4940, 4941. The student must complete 9 additional semester hours of English courses chosen by the student.

BACHELOR OF ARTS: ENGLISH

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See page 68) Writing Proficiency Exam
3. Required Courses
   Foundation (for all concentrations)
   (See also Literature Concentration, Writing Concentration or Linguistic Concentration below)
      - LIT 3000 Literary Analysis 3 hours
      - ENL 2010 English Literature I 3 hours
      - ENL 3021 English Literature II 3 hours
      - AML 2011 American Literature I 3 hours
      - AML 3020 American Literature II 3 hours
      - Choose any one of:
         - LIT 2110 World Literature I 3 hours
LIT 3120 World Literature II 3 hours  
LIT 3273 British Literature Since 1914 3 hours  
LIN 4100 History of English Language 3 hours  
LIN 4341 Modern English Grammar 3 hours  

4. Restricted Electives  
(See Literature Concentration, Writing, Concentration or Linguistic Concentration below)

5. Electives  
To be selected primarily from upper level courses with the approval of the student’s advisor.

6. Foreign Language Requirement  
Proficiency in one modern foreign language must be shown in one of the following ways: passing a proficiency exam; presenting four years of high school credit in one language; completing 12 semester hours in one language; completing 6 semester hours in one language (in which case an additional 6 semester hours of upper-level English courses are required).

Total Semester Hours Required 120

### AREA OF SPECIALIZATION

1. Literature. The following courses are required for this specialization.  
   Foundation (as above)  
   - CRW 2000: Principles of Creative Writing 3 hours  
   - ENL 4311: Chaucer 3 hours  
   - ENL 4330: Shakespeare 3 hours  
   Choose two of:  
   - ENL 5347: Age of Milton 3 hours  
   - ENL 5225, 5236: Age of Dryden & Pope 3 hours  
   - LIT 5366: Romantic Revolt 3 hours  
   - LIT 5367: Experience of Realism 3 hours  
   Choose three of:  
   - AML 4321: Modern American Literature 3 hours  
   - AML 4261: Literature of the South 3 hours  
   - LIT 3082: European Fiction Since 1900 3 hours  
   - AML 4101: American Novel 3 hours  
   - ENL 4373: Modern British Literature 3 hours  
   - ENL 4101: English Novel 3 hours

2. Writing. Students desiring to specialize in the area should meet the requirements:  
   Foundation (as above)  
   - CRW 2000: Principles of Creative Writing 3 hours  
   Choose one of:  
   - CRW 2100: Introduction to Fiction Writing 3 hours  
   - CRW 2300: Introduction to Verse Writing 3 hours  
   Choose four of:  
   - CRW 3001: Creative Writing Workshop I 3 hours  
   - CRW 3002: Creative Writing Workshop II 3 hours  
   - CRW 3410: Writing Scripts 3 hours  
   - ENC 3310: Writing Skills 3 hours  
   - ENC 3311: Expository Writing 3 hours  
   - ENC 3341: Magazine Writing 3 hours  
   - ENC 3210/41: Professional Report Writing I, II 3 hours  
   Choose two of:  
   - CRW 4940: Writing Practicum I 3 hours  
   - CRW 4941: Writing Practicum II 3 hours  
   - CRW 4906: Independent Study 3 hours  
   - CRW 5932: Teaching Creative Writing 3 hours

3. Linguistics  
   Foundation (as above)  
   - LIN 3010: Principles of Linguistics 3 hours  
   - LIN 4100: History of the English Language 3 hours  
   - LIN 4341: Modern English Grammar 3 hours

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Choose five of:

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DEPARTMENT OF FOREIGN LANGUAGES

Acting Chairman: A. Payas, FA 436, Phone 275-2641
Faculty: Barsch, Cervone, DiPierro, Micarelli, Taylor

Language studies in the College of Arts and Sciences provide instruction in French, German, Italian, Latin, Russian and Spanish, with majors in French and Spanish. These programs are designed to meet the needs of students who desire competency in a language and expanded understanding of a foreign culture and literature. Students enrolled in 1000, 2000 and certain 3000 level courses are required to attend the language laboratory for at least one hour a week.

Students wishing to major in a foreign language must meet all the requirements for graduation as set forth by the University, the College of Arts and Sciences, and by the Department of Foreign Languages. The student majoring in foreign language must complete 30 semester hours in the chosen language beyond the 1000 and 2000 level. Among these 30 semester hours the student must take courses numbered 3240, 3420, 3100, and 3101. Students interested in a combined major must take courses numbered 3240, 3420, 3100, and 3101 in both languages, plus an additional 15 hours in the first language and an additional 6 hours in the second language for a total of 45 semester hours.

Normal placement is as follows: Four years of one high school language would place the student in the first quarter of the third year; three years, in the second quarter of the second year; two years in the first quarter of the second year; one year in the second quarter of the first year.

A native speaker must substitute a literature course for the conversation course (3240). Moreover, in cases where the native speaker has received advanced education abroad, he will not be permitted to take the advanced composition course (3420) for the fulfillment of his major requirements but must substitute another literature course chosen with his advisor.

Language Credit by Examination will not be given in courses lower in level than those in which students are presently enrolled. Native speakers will be allowed Credit by Examination only in literature courses.

MINORS

The Department of Foreign Languages offers a minor consisting of 18 semester hours in French, German, or Spanish.

Required courses: 18 semester hours above the 2000 level in one language including the courses numbered 3240 and 3420.

BACHELOR OF ARTS: FRENCH OR SPANISH

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 68 and 88)
3. Required Courses for French or Spanish Major
   1100 Elementary Language & Civilization 3 hours
   1101 Elementary Language & Civilization 3 hours
   2200 Intermediate Language & Civilization 3 hours
   2201 Intermediate Language & Civilization 3 hours
4. Restricted Electives
Students are required to choose two of the following:
- LIN 4906 Articulatory Phonetics 3 hours
- LIN 4341 Modern English Grammar 3 hours
- LIN 3010 Principles of Linguistics 3 hours
- Other restricted electives 18 hours

5. Electives

**BACHELOR OF ARTS: FOREIGN LANGUAGE COMBINATION**

**Degree Requirements**

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 68 and 88)

3. Required Courses for Combined Major in Foreign Languages
   - 3240 Conversation 3 hours
   - 3420 Composition 3 hours
   - 3100 Survey of Literature I 3 hours
   - 3101 Survey of Literature II 3 hours

4. Restricted Electives
   - 15 credits in first language
   - 6 credits in second language
   Students are required to choose two of the following:
   - LIN 4906 Articulatory Phonetics 3 hours
   - LIN 4341 Modern English Grammar 3 hours
   - LIN 3010 Principles of Linguistics 3 hours
   - Other restricted electives 18 hours

5. Electives

**Summer Study Abroad**

The Department of Foreign Languages has been offering a Summer Study program in Spain since 1972 and one in Italy since 1975. These programs are approved by the Board of Regents and are expected to be offered in 1981. Credit bearing courses are available in these programs in language (all levels), art, and civilization of Spain and Italy. These programs are open to all students of the State University System of Florida.

**AREA OF SPECIALIZATION**

1. Russian Area Studies. The University of Central Florida offers an academic program in Russian Area Studies. Five departments in the University have cooperated to provide this unique study program so that the student may more fully enjoy the varied offerings of the University. Upon successful completion of courses, the student will receive a certificate of participation.

**DEPARTMENT OF HISTORY**

Chairman: J. Shofner, FA 551-B, Phone 275-2224
Faculty: Crepeau, Evans, Fetscher, Greenhaw, Kallina, Pauley, Wehr

Students majoring in history must complete a minimum of 36 hours in history courses. At least six hours must be selected from each of three different geographical areas, such as: United States, Europe, Asia or Latin America.

History majors are encouraged but not required to develop a proficiency in a foreign language.

History majors who are interested in a pre-law program should work closely with their advisors in selecting major courses and electives which will best prepare them for law
These students should use their electives for additional courses in history as well as English, speech and philosophy. Such a course of study will prepare them for success in law school and will concomitantly provide a broad liberal education.

**MINOR**

The Department of History offers a minor consisting of a minimum of 18 semester hours.

Required courses: 18 semester hours of history, twelve of which must be at the 3000-4000 level. Specific courses must be selected in conference with a departmental advisor.

**BACHELOR OF ARTS: HISTORY**

**Degree Requirements**

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 68 and 89)
   All majors will be expected to complete an English proficiency examination. Contact the English Department for details.

3. Required Courses
   None

4. Restricted Electives
   None

5. Electives
   To be selected with approval of the student's advisor

**Total Semester Hours Required**

120

**AREA OF SPECIALIZATION**

1. Russian Area Studies. The history department participates in the Russian Area Program. For information consult with Professor Evans.

**DEPARTMENT OF HUMANITIES, PHILOSOPHY AND RELIGION**

**Acting Chairman:** P. Riley, FA 416, Phone 275-2273

**Faculty:** Flick, Jones, Kassim, Levensohn, Riser

The Department offers an interdepartmental humanities major, with three choices of specialization; a philosophy major, with an optional specialization in religion; minors in humanities, philosophy or religion; a variety of courses in humanities, philosophy and religion for students in other areas who do not seek a major or minor; and a prelaw program.

The humanities major, as well as the philosophy major, provides a rich background in the liberal arts. Both are well suited for those students who see the college experience as a means toward fulfillment and preparation for living, and not merely as preparation for earning a living. Yet a liberal education, as provided by these majors, is still considered excellent preparation, by many employers, for careers in personnel management, communications, planning, administration, labor relations, public relations, writing, editing, politics, and civil service.

Both majors may also lead to careers in teaching. One who completes the humanities major and the necessary education courses may be certified to teach humanities in high school. With the addition of a Master's Degree he may qualify to teach in one of the many community colleges. Since philosophy is taught primarily in college, the student who plans to teach it will need to obtain an advanced degree. He will therefore be well advised to include at least a year of foreign language in his program.

For students who are interested in preparing for a career in law, the Department has developed a program within the philosophy major. Please inquire at the departmental office (FA 409, Phone 275-2273)

**MINORS**

The Department of Humanities, Philosophy and Religion offers minors consisting of 18-21 semester hours. For specific requirements, students should see an advisor in Humanities, Philosophy, or Religion.
BACHELOR OF ARTS: HUMANITIES
Degree Requirements
1. University graduation requirements  
   (See pages 41-43)
2. Special college and/or department requirements  
   (See page 68)  
The department requires one year of a foreign language or equivalent.
3. Required Courses (all specializations)  
   HUM 4302  The Romantic Ideal in the Arts  4 hours  
   HUM 4303  The Spiritual Ideal in the Arts  4 hours
4. Restricted Electives  
   (Choose one of the three specializations)
5. Electives  
   May be used to obtain a second major, to complete requirements for teacher certifi-  
   cation in Humanities in the College of Education, or to strengthen the major with cog-  
   nate courses.

Total Semester Hours Required  120

AREAS OF SPECIALIZATION
1. IDEAS (See advisor for specific courses.)  
   a. Two courses in world or English literature  6 hours  
   b. Two courses in Greek, Roman or European history  6 hours  
   c. Two courses in history of philosophy  6 hours  
   d. One course in Judaism, Christianity or world religions  3-4 hours  
   e. Any course in literature, history, philosophy or religion  3 hours  
   f. One course in art history or appreciation  3 hours  
   g. One course in music appreciation  3 hours  
   h. One course in theatre history  3 hours
2. THE ARTS (See advisor for specific courses)  
   a. One course in world literature  3 hours  
   b. One course in history  3 hours  
   c. One course in history of philosophy  3 hours  
   d. One course in religion  3-4 hours  
   e. Two courses in art  6 hours  
   f. Two courses in creative writing  6 hours  
   g. Courses in music  6 hours  
   h. Two courses in theatre  6 hours
3. WORLD CULTURES (See advisor for specific courses.)  
   a. Two courses in world or European literature  6 hours  
   b. Two courses in Russian or Far Eastern history  6 hours  
   c. Two courses in non-Western religion  6 hours  
   d. One course in philosophy  3 hours  
   e. Two courses in non-Western art  6 hours  
   f. One course in music appreciation  3 hours  
   g. One course in drama development  3 hours

BACHELOR OF ARTS: PHILOSOPHY
Degree Requirements
1. University graduation requirements  
   (See pages 41-43)
2. Special college and/or department requirements  
   (See pages 68 and 90)
3. Required Courses  
   PHI 1100  Critical Thinking  3 hours  
   PHI 2130  Formal Logic  3 hours  
   PHI 2010  Introduction to Philosophy  3 hours  
   PHH 3100  Ancient Philosophy  3 hours  
   PHH 3400  Modern Philosophy  3 hours
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4. Restricted Electives
Three elective courses in philosophy or religion 9 hours

5. Electives
To be selected with the approval of the student’s advisor. May be used to obtain a second major.

**Total Semester Hours Required** 120

**AREA OF SPECIALIZATION**

1. RELIGION
Students may meet requirements for the Bachelor of Arts in Philosophy by completing the following alternate required courses and restricted electives.

   a. Required courses
      - PHI 1100 Critical Thinking 3 hours
      - PHI 2010 Introduction to Philosophy 3 hours
      - PHH 3100 Ancient Philosophy 3 hours
      - PHI 3600 Ethics 3 hours
      - PHI 4700 Philosophy of Religion 3 hours
      - REL 2203 Hebrew and Christian Heritage 4 hours
      - REL 3314 Religions of China & Japan 3 hours
      - REL 3342 Hinduism 3 hours
      - REL 3353 Islam 3 hours

   b. Restricted electives
      Three elective courses in religion 9 hours

**DEPARTMENT OF MATHEMATICS AND STATISTICS**

**Chairman:** J. Anthony, FA 451, Phone 275-2585

**Faculty:** Andrews, Armstrong, Barr, Bean, Brigham, Caron, A. Dutton, Heinzer, Hurst, Jones, Malone, Norman, O’Hara, Ostle, Pattofrezzo, Rautenstrauch, Rodriguez, Salzmann, Sherwood, Somerville, Taylor

The Department of Mathematics and Statistics offers courses and programs which lead to a Bachelor of Science in Mathematics, a Bachelor of Science in Statistics, a minor in mathematics, a minor in statistics, and a Master of Science in Mathematical Science. (See page 121 for a description of the M.S. in Mathematical Science.)

The programs in mathematics and statistics are designed to serve (1) students who wish to pursue careers in mathematics or statistics after having completed a baccalaureate degree; (2) students who wish to continue their education in graduate and professional schools; and (3) students who need to use mathematics or statistics as tools in their specialty areas.

In order to serve such a wide variety of students, the courses and programs in the Department of Mathematics and Statistics have developed along several lines. There are the usual service courses in precalculus, calculus and elementary statistics along with strong programs in the upper division in the traditional areas of algebra and analysis, applied mathematics, statistical methods, and statistical theory.

A limited number of student assistantships are available for qualified graduate and undergraduate students.

**MINORS**

The Department of Mathematics and Statistics offers the following minors.

1. Mathematics (minimum 21 hours)
   - Required Courses: MAC 3311, 3312, 3313; MAP 3302.
     (MAC 3311 and 3312 may be waived by the Department Standards Committee for a student with adequate high school preparation in calculus.)
   - Restricted Electives: A minimum of two courses selected from STA 4442, STA 5447, MHF 2300, MAA courses, MAP courses, MAS courses, or MTG courses.
     (Either MAS 3103 or MAS 3113 may be used but not both. Courses may be selected from MAA 4226, 4227, or MAA 5211 but not both.) These two courses must be taken
from the Department of Mathematics and Statistics at U.C.F.

2. Statistics (minimum 18 hours)
   Required Courses: STA 3023 or STA 3032 or equivalent; STA 4163, 4164; STA 4202 or STA 4222.
   Restricted Electives: Six or more hours from STA courses numbered 3000 or higher. 
   (Credit from STA 3023 or STA 3032 or the equivalent may not be used as a restricted elective.) All courses except for STA 3023 or STA 3032 and STA 4163 must be taken from the Department of Mathematics and Statistics at U.C.F.

BACHELOR OF SCIENCE: MATHEMATICS

Degree Requirements
1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   All mathematics and statistics courses except for MAC 3311, 3312, 3313, MAP 3302 and STA 3023 must either be taken from the Department of Mathematics and Statistics at U.C.F. or must be approved by the Department Standards Committee.

3. Required Courses

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<td>STA 4321</td>
<td>Statistical Theory I</td>
<td>3</td>
</tr>
</tbody>
</table>

One course selected from

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ENC 3241</td>
<td>Professional Report Writing II</td>
</tr>
<tr>
<td>ENC 3310</td>
<td>Writing Skills</td>
</tr>
<tr>
<td>ENC 3311</td>
<td>Expository Writing</td>
</tr>
</tbody>
</table>

4. AREA OF SPECIALIZATION

a. Mathematics

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MAA 4226</td>
<td>Introduction to Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>MAA 4227</td>
<td>Introduction to Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>MAS 4301</td>
<td>Algebraic Structures</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MTG 4302</td>
<td>Introduction to Topology</td>
<td>3</td>
</tr>
<tr>
<td>STA 4322</td>
<td>Statistical Theory II</td>
<td>3</td>
</tr>
</tbody>
</table>

A minimum of 8 hours selected from upper division or graduate mathematics or statistics courses or from CNM 4110, 5142; COT 4001, or EGN 4634. (MAC 3233, 3253, 3254, MAE 3817 and MAA 5211 may not be used.) One additional course in either the biological or physical sciences must be taken. A list of courses which may be used to satisfy this requirement may be obtained from the Department Standards Committee.

b. Applied Mathematics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 2045</td>
<td>Chemistry Fundamentals I</td>
<td>4</td>
</tr>
<tr>
<td>CHM 2046</td>
<td>Chemistry Fundamentals II</td>
<td>3</td>
</tr>
<tr>
<td>CHM 2046L</td>
<td>Chemistry Fundamentals Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CNM 4110</td>
<td>Numerical Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MAP 4364</td>
<td>Applied Boundary Value Problems II</td>
<td>3</td>
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93
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>STA 4442</td>
<td>Probability Theory and Applications</td>
<td>3</td>
</tr>
<tr>
<td>MAS 4153</td>
<td>Vector and Tensor Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

One course selected from upper division or graduate mathematics or statistics courses or from CNM 5142 or COT 4001. (MAC 3233, 3253, 3254, MAE 3817 and MHF 4404 may not be used.)

Two courses selected from an area of application of mathematics taught outside the Department of Mathematics and Statistics. These courses must be approved by the Department Standards Committee.

5. Electives

The number of hours depends on the courses chosen to satisfy university requirements and the area of specialization. The courses used as electives up to a total of 120 hours must be approved by the Department Standards Committee.

Total Semester Hours Required 120

**BACHELOR OF SCIENCE: STATISTICS**

**Degree Requirements**

1. University graduation requirements

(See pages 41-43)

2. Special college and/or department requirements

All mathematics and statistics courses except for MAC 3311, 3312, 3313, MAP 3302, and STA 3023, must either be taken from the Department of Mathematics and Statistics at U.C.F. or must be approved by the Department Standards Committee.

Four courses in the biological and physical sciences must be taken with at least one course in the biological sciences and at least one course in the physical sciences.

A list of courses which may be used to satisfy this requirement may be obtained from the Department Standards Committee.

3. Required courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STA 3023</td>
<td>Fundamentals of Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STA 3664</td>
<td>Statistical Quality Control</td>
<td>3</td>
</tr>
<tr>
<td>STA 4102</td>
<td>Computer Processing of Statistical Data</td>
<td>3</td>
</tr>
<tr>
<td>STA 4163</td>
<td>Statistical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>STA 4164</td>
<td>Statistical Methods II</td>
<td>3</td>
</tr>
<tr>
<td>STA 4202</td>
<td>Experimental Design</td>
<td>3</td>
</tr>
<tr>
<td>STA 4222</td>
<td>Sample Survey Methods</td>
<td>3</td>
</tr>
<tr>
<td>STA 4321</td>
<td>Statistical Theory I</td>
<td>3</td>
</tr>
<tr>
<td>STA 4322</td>
<td>Statistical Theory II</td>
<td>3</td>
</tr>
<tr>
<td>CNM 4110</td>
<td>Numerical Calculus</td>
<td>3</td>
</tr>
<tr>
<td>COP 2510</td>
<td>Programming I</td>
<td>3</td>
</tr>
<tr>
<td>COP 2511</td>
<td>Programming II</td>
<td>3</td>
</tr>
<tr>
<td>MAC 3311</td>
<td>Calculus with Analytic Geometry I</td>
<td>4</td>
</tr>
<tr>
<td>MAC 3312</td>
<td>Calculus with Analytic Geometry II</td>
<td>4</td>
</tr>
<tr>
<td>MAC 3313</td>
<td>Calculus with Analytic Geometry III</td>
<td>4</td>
</tr>
<tr>
<td>MAS 3113</td>
<td>Matrices</td>
<td>4</td>
</tr>
<tr>
<td>MHF 2300</td>
<td>Logic and Proof in Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

One course selected from

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENC 3241</td>
<td>Professional Report Writing II</td>
<td>3</td>
</tr>
<tr>
<td>ENC 3310</td>
<td>Writing Skills</td>
<td>3</td>
</tr>
<tr>
<td>ENC 3311</td>
<td>Expository Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Restricted Electives

A minimum of 6 hours selected from upper division or graduate mathematics or statistics courses or from CNM 5142, COP 3402, 3522, 4530 or COT 4001. (MAC 3233, 3253, 3254, MAE 3817 and MHF 4404 may not be used.)

5. Electives

The number of hours depends on the courses chosen to satisfy university requirements. The courses used as electives up to a total of 120 hours must be approved by the Department Standards Committee.

Total Semester Hours Required 120
DEPARTMENT OF MUSIC
Chairman: G. Wolf, FA 105A, Phone 275-2867
Part-time Faculty: Ault, Curtis, Eshenaur, Hall, Hasse, Mascaro, Micarelli, Petta, Townes, Weinstein.

The Department of Music offers a Bachelor of Arts with options in Applied Music, Piano Pedagogy, Instrumental Music Education, Choral Music Education, and Elementary School Music Education.

SPECIAL MUSIC MAJOR ENTRANCE REQUIREMENTS
In order to be accepted as a music major, the following entrance requirements must be met:
1. Audition. Each student must demonstrate an advanced level of proficiency in the performance as evidenced by his/her ability to perform compositions representing a variety of musical periods. Memorization is required for pianists and vocalists. Accompanists for vocalists will be furnished only upon request prior to the audition. Each candidate must bring music for the compositions he intends to perform. The college will provide large instruments such as the tuba, string bass, or tampani for these auditions. All smaller instruments must be brought to the University. The audition will serve as a placement examination for accepted candidates.
2. Music Education majors must furnish official proof of scoring at or above the 40th percentile on either the S.A.T. (835) or A.C.T. (17) before they can be admitted to the State Approved Education Program.

K-12 Certification
The Music Education programs are approved by the Florida State Department of Education. Students who wish to be certified to teach in elementary and secondary schools should consider a major in Music Education. Courses leading to teacher certification are offered cooperatively with the College of Education. Those students who satisfactorily complete the Music Education program will be eligible for a Florida Rank III Teacher's Certificate. The certificate is valid for five years and is renewable. A reciprocal certification arrangement is in effect with approximately 30 other states, with reciprocal certification pending in other states. In addition, a Master of Education degree in Music Education and a Master of Arts in Teaching in Music Education are offered in cooperation with the College of Education.

COMPREHENSIVE EXAMINATIONS
Comprehensive examinations in Music Theory and Music History will be given during the Junior year. At the end of the first semester there will be ear-training, sight-singing, part-writing, and visual analysis examinations; at the end of the second semester there will be a music history examination.

POLICY REGARDING MAJOR ENSEMBLE PARTICIPATION
1. Every music or music education major carrying an academic credit load of eight (8) or more hours must participate in a credit-bearing major ensemble in his applied major area.
   Major ensembles acceptable in fulfillment of this requirement are chorus, symphony orchestra, concert band, marching band and wind ensemble. Students concentrating in piano, guitar and organ must take University Choir as their major ensemble, the stipulation that this participation be "in his applied major area" not being applicable.
2. Music majors must earn eight (8) hours of major ensemble credit to graduate. Music education majors must similarly earn seven (7) hours in their degree program. No more than one major ensemble may be used to satisfy this requirement in any given semester, although a student may participate in more than one ensemble if he so desires.
3. Music education majors in wind, brass, strings, and percussion are required to participate in the University Chorus for a minimum of two semesters during their degree program. The minor ensemble requirement will be reduced by one hour in order to accommodate this requirement. Vocal music education majors may elect to substi-
tute one (1) hour of band or orchestra for one (1) hour of the minor ensemble provided they have sufficient facility on an appropriate instrument.

4. Assignment to a major ensemble(s) will be made by the ensemble director(s).

**POLICY REGARDING MINOR ENSEMBLE PARTICIPATION**

1. Music majors must earn eight (8) semester hours of minor ensemble credit during at least seven (7) separate semesters to graduate. Music education majors must earn four (4) hours of minor ensemble credit during at least three (3) separate semesters to graduate.

2. The following ensembles will be considered minor ensembles: Brass Ensembles, Percussion Ensembles, Piano Ensembles, String Ensembles, Vocal Ensembles, Woodwind Ensembles.

   N. B. Opera Workshop and Jazz Ensembles will not be considered minor ensembles. Other minor ensembles may be instituted at the discretion of the Ensemble Coordinator.

3. Assignment in minor ensembles will be made by the Ensemble Coordinator upon recommendation of the applied music teacher and/or the ensemble director.

**MINOR**

The Department of Music offers a minor consisting of a minimum of 21 semester hours. An audition will be required for acceptance as a music minor.

Required courses: One year of theory (6 hours), two years of ensembles (4 hours) MUL 2011 (3 hours), one year of Principal Performance I (4 hours), one year of Principal Performance II (4 hours).

**BACHELOR OF ARTS: MUSIC**

**Degree Requirements**

1. University graduation requirements

   (See pages 41-43)

2. Special college and/or department requirements

   (See pages 68 and 95)

3. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 1011</td>
<td>Music Forum (8 semesters)</td>
<td>0</td>
</tr>
<tr>
<td>MUT 2111, 2112, 3116, 3117, 4431</td>
<td>Music Theory</td>
<td>15</td>
</tr>
<tr>
<td>MVK/MVS, MVV/MVB</td>
<td>Principal Performance I (8 semesters)</td>
<td>16</td>
</tr>
<tr>
<td>MVP/MVV</td>
<td>(including 2 semesters P. P. IV)</td>
<td></td>
</tr>
<tr>
<td>MUN</td>
<td>Major Ensemble (8 semesters)</td>
<td>8</td>
</tr>
<tr>
<td>MUN</td>
<td>Minor Ensemble</td>
<td>8</td>
</tr>
<tr>
<td>MUH 4211, 4212</td>
<td>Music History</td>
<td>6</td>
</tr>
<tr>
<td>MUG 3101</td>
<td>Basic Conducting</td>
<td>2</td>
</tr>
<tr>
<td>PHS 3805</td>
<td>Physical Basis of Music</td>
<td>2</td>
</tr>
<tr>
<td>Music Electives</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

Any secondary performance class not in area of major instrument or any MUC, MUE, MUG, MUH, MUL, MUN, MUS, MUT courses numbered 3000 or higher except the following: MUL 2011, MUS 3670, MUH 4218, MUT 4031, 4275.

In partial fulfillment of the Music Electives requirement, Piano Majors take Piano Literature (MUL 3401, 3402) for 4 hours; Voice Majors take Foreign Diction (FRE 1005, GER 1005, ITA 1005—1 hour each for a total of 3 hours) and Song Literature (MUL 3622, 3624—1 hour each for a total of 2 hours) for a combined total of 5 hours; Piano Pedagogy Majors take Piano Literature (MUL 3401, 3402) for 4 hours, Piano Pedagogy (MVK 4640, 4641) for 2 hours, and Studio Teaching (MUS 4401) for 2 hours, for a combined total of 8 hours.

4. Restricted Electives

   To be selected from upper level courses outside the Department of Music, with the approval of the student’s advisor. 6 hours

5. Electives

   Total Semester Hours Required 123

**Special Non-Course Requirements**

1. Piano Proficiency Examination before admission to Principal Performance III.
3. Two faculty-approved public recitals: a junior recital of 30 minutes length, and a senior recital of 45 minutes length. Students who select the Piano Pedagogy option will perform two faculty-approved thirty-minute recitals.

**BACHELOR OF ARTS: MUSIC EDUCATION**

**Degree Requirements**

1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 68 and 95)
3. Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>MUS 1011</td>
<td>Music Forum (6 semesters)</td>
<td>0</td>
</tr>
<tr>
<td>MUT 2111, 2112, 3116, 3117, 4431</td>
<td>Music Theory</td>
<td>15</td>
</tr>
<tr>
<td>MVB/MVK/MVP</td>
<td>Principal Performance (6 semesters)</td>
<td>12</td>
</tr>
<tr>
<td>MVS/MVV/MVW</td>
<td>(Including 2 semesters P.P. III)</td>
<td></td>
</tr>
<tr>
<td>MUN</td>
<td>Major Ensemble (7 semesters)</td>
<td>7</td>
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<tr>
<td>MUN</td>
<td>Minor Ensemble</td>
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</tr>
<tr>
<td>MUH 4211, 4212</td>
<td>Music History</td>
<td>6</td>
</tr>
<tr>
<td>MUG 3101</td>
<td>Basic Conducting</td>
<td>2</td>
</tr>
<tr>
<td>PHS 3805</td>
<td>Physical Basis of Music</td>
<td>2</td>
</tr>
<tr>
<td>MVB 1211</td>
<td>Secondary Performance-Trumpet</td>
<td>1</td>
</tr>
<tr>
<td>MVP 1211</td>
<td>Secondary Performance-Percussion</td>
<td>1</td>
</tr>
<tr>
<td>MVS 1211</td>
<td>Secondary Performance-Violin</td>
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</tr>
<tr>
<td>MVS 1213</td>
<td>Secondary Performance-Clarinet</td>
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<tr>
<td>EDF 3603</td>
<td>Teaching Analysis</td>
<td>3</td>
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<tr>
<td>EDF 4214</td>
<td>Classroom Learning Principles</td>
<td>3</td>
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<tr>
<td>EDG 4326</td>
<td>Teaching in the Schools</td>
<td>5</td>
</tr>
<tr>
<td>EDG 4341</td>
<td>Teaching Strategies</td>
<td>5</td>
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<tr>
<td>EDE 3943</td>
<td>Junior Year Student Teaching</td>
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<tr>
<td>EDE or ESE 4943</td>
<td>Senior Year Student Teaching</td>
<td>7</td>
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<tr>
<td>MUE 4330</td>
<td>Elementary School Music Instructional Analysis</td>
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</tr>
<tr>
<td>MUE 4350</td>
<td>Secondary School Music Instructional Analysis</td>
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**Program A—Instrumental Music Education Specialization**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>MVV 1211</td>
<td>Secondary Performance-Voice</td>
<td>1</td>
</tr>
<tr>
<td>MVB/MVP/MVS/MVW</td>
<td>Secondary Performance-Instruments</td>
<td>6</td>
</tr>
<tr>
<td>MVK</td>
<td>Secondary Performance-Piano</td>
<td>2</td>
</tr>
<tr>
<td>MVB/MVK/MVP/</td>
<td>Principal Performance IV</td>
<td>2</td>
</tr>
<tr>
<td>MVS/MVV/MVW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUG 3301</td>
<td>Instrumental Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUT 4321</td>
<td>Arranging and Transcription</td>
<td>1</td>
</tr>
<tr>
<td>MUE 4480</td>
<td>Marching Band Techniques</td>
<td>1</td>
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</tbody>
</table>

**Program B—Choral Music Education Specialization**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVK 1111-1114</td>
<td>Class Piano</td>
<td>4</td>
</tr>
<tr>
<td>MVV 1211</td>
<td>Secondary Performance-Voice</td>
<td>2</td>
</tr>
<tr>
<td>MVS 1216</td>
<td>Secondary Performance-Guitar</td>
<td>1</td>
</tr>
<tr>
<td>MUG 3201</td>
<td>Choral Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MVB/MVK/MVP/</td>
<td>Principal Performance IV</td>
<td>2</td>
</tr>
<tr>
<td>MVS/MVV/MVW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITA 1005, FRE 1005, GER 1005</td>
<td>Diction</td>
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**Program C—Elementary School Music Education Specialization**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>MVK 1111-1114</td>
<td>Class Piano</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(Not required of Piano Majors)</td>
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</tr>
</tbody>
</table>
MVV 1211  Secondary Performance-Voice  3 hours
MVS 1216  Secondary Performance-Guitar  1 hour
MVO 1214  Secondary Performance-Recorder  1 hour
Special Topics in Elementary School Music  4 hours
(2 semesters)
4. Electives  Total Semester Hours Required  137-143
Special Non-course requirements
1. Piano Proficiency Examination before admission to Principal Performance III.
3. A faculty-approved public recital of 30 minutes length. (A recital is optional for the Elementary School Music Specialization.)

DEPARTMENT OF PHYSICS
Chairman: J. Noon, EN 312, Phone 275-2325
Faculty: Bolemon, Bolte, Brennan, Hudson, Llewellyn, Meyers, Oelfke

The Department of Physics offers a Bachelor of Science degree in Physics and a minor in Physics. Physics is the basic science fundamental to many different fields of endeavor. Physics majors are encouraged to prepare for interdisciplinary type careers by using electives to study other areas in depth, planning with an advisor by the sophomore year (or after arrival, for transfer students).

Independent investigation and use of scientific instrumentation (such as lasers, lock-in amplifiers, multi-channel analyzers, oscilloscopes) are emphasized at the upper division. Computer programming requiring numerical analysis and familiarity with microcomputers is required. Students planning graduate study should consult faculty advisors about increased course content in physics (some electives are offered in alternate years) and mathematics such as applied boundary problems, vector and tensor analysis, matrices; double majors are encouraged where appropriate. Extra independent study courses and laboratory work may be arranged but general courses such as astronomy, physical science, or physics of science fiction do not satisfy requirements for the major.

Research of the faculty covers air sampling techniques, astrophysics, atmospheric electricity, computing, gravity, instrumentation, lasers, mathematical modeling, microprocessors, nuclear physics, optics, physics education, plasmas, radio astronomy, solar energy, thin film and organic semiconductors.

MINOR
The Department of Physics offers a minor consisting of a minimum of 20 semester hours. Required courses: PHY 2040, 2040L, 2041, 2041L, 3421C. The remaining 8 semester hours must be selected from appropriate upper level lecture or laboratory courses.

BACHELOR OF SCIENCE: PHYSICS
Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 68 and 98)
In addition to the degree requirements listed below for a B.S. in Physics, the following standards are required by the department for graduation, and approval as a special case by the Department Academic Standards Committee is required for any waiver.
   a. A minimum GPA of 2.0 for all courses used for a major in physics.
   b. No credit toward graduation for a D grade in any physics or mathematics course required for a major in physics; a higher grade on repeating is acceptable.
3. Required Courses
   The courses listed, or departmentally approved equivalents, are required in the physics curriculum.
   BSC 1010  Basic Biology  4 hours
   CHM 2045, 2046, 2046L  Chemistry Fundamentals  8 hours
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAC 3311, 3312, 3313</td>
<td>Calculus with Analytical Geometry</td>
<td>12</td>
</tr>
<tr>
<td>PHY 2040, 2040L</td>
<td>University Physics</td>
<td>8</td>
</tr>
<tr>
<td>2041, 2041L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 3421C</td>
<td>Optics and Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHY 3043</td>
<td>Mechanics &amp; Special Relativity</td>
<td>3</td>
</tr>
<tr>
<td>MAP 3302</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3044</td>
<td>Electricity, Magnetism &amp; Electromagnetic Waves</td>
<td>3</td>
</tr>
<tr>
<td>COP 3215</td>
<td>Programming and Numerical Methods</td>
<td>3</td>
</tr>
<tr>
<td>PHS 3151</td>
<td>Computer Methods in Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3752C</td>
<td>Physics of Scientific Instruments</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3045</td>
<td>Wave Mechanics &amp; Solid State</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3046</td>
<td>Thermodynamics and Statistical Physics</td>
<td>3</td>
</tr>
<tr>
<td>CDA 4012</td>
<td>Computer Interfacing for Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3722C</td>
<td>Physics Laboratory—Electronics</td>
<td>3</td>
</tr>
<tr>
<td>STA 3023</td>
<td>Fundamentals of Probability &amp; Statistics</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3802L</td>
<td>Intermediate Physics Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>PHY 4803L</td>
<td>Advanced Physics Laboratory</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Restricted Electives
   Upper division PHY courses or those to be used in partial fulfillment of the requirements of a double major 9 hours

5. Electives for Career Enrichment
   A plan for use of electives must be approved no later than the junior year by a departmental committee 9 hours

Total Semester Hours Required 126 hours
The Department of Political Science seeks to (1) provide a broad background for careers in foreign and domestic public service and in the private sector where knowledge of government and politics is necessary; (2) provide a broad background for and facilitate admission to law school through the prelaw emphasis; (3) prepare students for teaching, research and graduate study in Political Science; (4) provide a broad background for careers in politics; and (5) educate citizens and promote their active interest in public affairs. Students should plan their major or minor in consultation with their departmental advisors according to their interests and career objectives.

Political Science courses are divided into three areas of specialization: American Politics and Policy, International Relations and Comparative Government, and Political Theory.

Although there are no formal language requirements for a political science major, it is strongly recommended that majors planning to continue their education at the graduate level or to pursue a career in international fields require a working knowledge of a foreign language.

MINOR

The Department of Political Science offers minors consisting of a minimum of 19 semester hours in each minor.

1. Political Science
   Required courses: POS 2041 and two 4000-level courses. In the event a student has taken the varying credit POS 4941, only 3 semester hours from this course can be used in the minor. Only two Junior College courses (6 semester hours) will be accepted part of the minor. Other than these requirements, students may select any other Political Science courses with the aid of an advisor.

2. Political Science/Prelaw
   Required courses: POS 2041, 4284; at least one from INR 4401, 4402, POS 4603, or POS 4604. In the event a student has taken the varying credit POS 4941, only 3 semester hours from this course can be used in the minor. Only two Junior College courses (6 semester hours) will be accepted as part of the minor. Other than these requirements, students may select any other Political Science courses with the aid of an advisor.

BACHELOR OF ARTS: POLITICAL SCIENCE

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 68 and 101)
3. Required courses
   POS 2041 American National Government 3 hours
   POS 3703 Scope and Methods of Political Science 4 hours
4. Restricted Electives
   Majors must choose from one of the following emphases for a minimum of 28 additional hours.
   Emphasis 1: American Politics and Policy
     Four courses from area A 16 hours
     One course from area B 4 hours
     One course from area C 4 hours
     One additional course from any area 4 hours
   Emphasis 2: International Relations-Comparative Government
     Four courses from area B 16 hours
     One course from area A 4 hours
     One course from area C 4 hours
     One additional course from any area 4 hours

100
Emphasis 3: Prelaw
POS 4284 Judicial Process and Politics 4 hours

One of the following:
POS 4603 American Constitutional Law I
POS 4604 American Constitutional Law II
INR 4401 International Law I
INR 4402 International Law II 4 hours

One course from area B* 4 hours
One course from area C 4 hours
Three or four courses from any area 12/16 hours

*This requirement may be met by one of the International Law courses.

Total Hours in Major 35 hours

5. Electives

Areas of Specialization

The Department courses are divided into three areas of specialization.

A. American Politics and Policy

- POS 3122 State Government
- POS 3443 Political Parties and Processes
- POS 3413 The American Presidency
- POS 3424 Congress and the Legislative Process
- PUP 3314 Minorities in American Politics
- POS 3235 Mass Media and Politics
- POS 3233 Public Opinion
- POS 3273 Voting and Elections
- POS 3173 Southern Politics
- POS 4261 Political Corruption
- POS 4246 Political Socialization
- POS 4603 American Constitutional Law I
- POS 4604 American Constitutional Law II
- POS 4284 Judicial Process & Politics
- POS 4412 Presidential Campaigning
- PUP 4323 Women and Politics
- POS 4142 Metropolitan Politics
- URP 4026 Community Planning
- PUP 4003 American Public Policy
- PUP 4503 Government and Science
- PUP 4602 Politics of Health
- POS 4265 Power and Policy in the United States
- POS 4210 Political Psychology
- PUP 4009 Topics in Public Policy

B. International Relations and Comparative Government

- INR 3002 International Relations
- GEO 3470 World Political Geography
- INR 4224 Contemporary International Politics of Asia
- INR 4274 International Politics of the Middle East
- INR 4104 American Foreign & Defense Policy
- INR 4401 International Law I
- INR 4402 International Law II
- INR 4335 Coercion in International Politics
- INR 4035 International Political Economy
- INR 4243 Contemporary Politics of Latin America
- CPO 3103 Comparative Politics
- INR 3024 Nationalism: A Systematic Analysis
- CPO 3034 Politics of Developing Areas
- POS 3253 Contemporary Revolution and Political Violence
- CPO 4123 Government and Politics of Great Britain
- CPO 4643 Government and Politics of the Soviet Union
- CPO 4024 Non-Western Politics

Total Semester Hours Required 120 hours
PRELAW: POLITICAL SCIENCE

While no specific major is prescribed for admission to law school, many prelaw students elect to major in political science. These individuals should choose the prelaw emphasis within the political science major.

Prelaw students are encouraged to work closely with the prelaw advisor in planning their programs. By judicious use of electives, the student not only builds a firm foundation for law school entry, but in addition, acquires a broad vocational training which can result in career options upon graduation. For further information, contact Dr. Robert L. Bledsoe, LR 251, Phone 275-2608.

1. Some suggested electives include:
   - ACC 2001 Principles of Accounting I
   - ACC 2021 Principles of Accounting II
   - BUL 3111 Legal Environment of Business
   - ENC 3210 Professional Report Writing I
   - EUH 2545 Introduction to Anglo-American Law
   - LEA 3011 Legal Research and Writing

INTERNSHIP PROGRAM: POLITICAL SCIENCE

For students who excel, a limited number of Internships may be available each semester for 3 to 10 hours of credit. Under the Internship Director, the student is typically placed in an office of local, state, or national government, a law office, or campaign headquarters. For further information contact the Department Internship Director.

RUSSIAN AREA STUDIES: POLITICAL SCIENCE

The Department of Political Science in conjunction with the Departments of History, Sociology, Economics, and Foreign Languages offer an interdisciplinary program in Russian Area Studies. A certificate of participation is awarded upon successful completion of prescribed courses. A student with any major may earn the certificate. For further information, contact Dr. Henry Kennedy, LR 255, Phone 275-2608.

DEPARTMENT OF PSYCHOLOGY

Chairman: R. Tucker, CB 317, Phone 275-2216

Faculty: Abbott, Blau, Brophy, Burr, Burroughs, Connally, Fisher, Guest, McGuire, Rollins, Shirkey, Tell, Thomas, Thompson, Wienclew, Zegman

The undergraduate program provides a general preparation in Psychology with the option to select specialization electives according to student interests. Successful completion of the specified program of at least 38 semester hours leads to the Bachelor of Arts degree with a major in Psychology.

MINOR

The Department of Psychology offers a minor consisting of a minimum of 18 semester hours.

Required courses: PSY 2013 plus a minimum of 12 semester hours of upper level courses and a minimum of 9 semester hours must be taken at UCF. A maximum of 3 semester hours may be completed in courses identified as independent study. A maximum of 3 semester hours of PSY 3951 will apply.
BACHELOR OF ARTS: PSYCHOLOGY

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 68 and 102)
3. Required Courses
   - PSY 2013 General Psychology 3 hours
   - PSY 2023 Careers in Psychology 1 hour
   - PSY 3214 Research Methods 4 hours
   - PSY 3204 Statistical Methods in Psychology 4 hours
   - EXP 3404 Basic Learning Processes 4 hours
   - PSB 3002 Physiological Psychology 4 hours
4. Restricted Electives (any two)
   - CLP 3143 Abnormal Psychology 3 hours
   - DEP 3004 Developmental Psychology 3 hours
   - PPE 3003 Personality Theory 3 hours
   - SOP 3004 Social Psychology 3 hours
5. Electives
   A total of 12 semester hours in other courses offered by the Psychology Department taken in accordance with the student's interests and career goals and with the consent of the advisor.
   - Total Hours Required in Major 38
   - Total Semester Hours Required 120

DEPARTMENT OF PUBLIC SERVICE ADMINISTRATION

Chairman: G. Holten, CB 336, Phone 275-2603
Faculty: Ammons, Becker, L. F. Carter, P. W. Carter, Duffey, Jones, Korstad, Pyle, Slaughter, Stalnaker

The Department of Public Service incorporates three related undergraduate degree programs: Allied Legal Services, Criminal Justice and Public Administration. It also offers the Masters of Public Policy Program.

ALLIED LEGAL SERVICES

The Allied Legal Services program provides students with a broad understanding of basic principles of law and the role and functions of the legal system as well as prepare students for positions as legal assistants in law offices, private corporations and public agencies. The graduate is expected to be adept at legal research and drafting of legal documents, and at undertaking whatever interviewing and investigative functions the employer deems appropriate. The program leads to the degree of Bachelor of Arts with the major in Allied Legal Services.

BACHELOR OF ARTS: ALLIED LEGAL SERVICES

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 68 and 103)
3. Required Courses (28 semester hours)
   - LEA 3001 Law and the Legal System 4 hours
   - LEA 3011 Legal Research and Writing 4 hours
   - LEA 3101 Civil Practice and Procedure 4 hours
   - LEA 3201 Property and Real Estate Law 4 hours
   - LEA 3601 Criminal Procedures 4 hours
   - LEA 4301 Contracts and Agency 4 hours
   - LEA 4501 Domestic Relations Law 4 hours
4. Restricted Electives
   a. Eight (8) additional semester hours of Allied Legal Services Coursework
b. Ten (10)-Twelve (12) semester hours of supporting courses selected from other disciplines or departments with the approval of the student's advisor. Courses may be selected from among, but not necessarily limited to, offerings in accounting, communications, criminal justice, history, political science, public administration, social work, and sociology.

5. Electives

**CRIMINAL JUSTICE**

The Criminal Justice program of study is designed to provide students with a broad understanding of crime and society's control mechanisms as well as prepare them for professional careers in criminal justice and related agencies. The program offers three areas of concentration: law enforcement, corrections, and justice administration. Satisfactory completion of program requirements leads to the degree of Bachelor of Arts with a major in Criminal Justice.

**BACHELOR OF ARTS: CRIMINAL JUSTICE**

**Degree Requirements**

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 68 and 103)

3. Required Courses (20 semester hours)
   - CCJ 2020 Introduction to Criminal Justice 4 hours
   - CCJ 3010 Crime in America 4 hours
   - CCJ 3290 Prosecution and Adjudication 4 hours
   - CCJ 3300 The Correctional and Penal System 4 hours
   - PAD 3003 Public Administration 4 hours

4. Restricted Electives
   a. 16 additional semester hours of CCJ coursework.
   b. 16 additional semester hours of Allied Supporting courses to be selected with and approved by the student's advisor. These courses may vary from student to student depending upon individual needs or objectives, but include selected courses from public administration, allied legal services, sociology, statistics, and psychology.

5. Electives

**PUBLIC ADMINISTRATION**

The Public Administration course of study is designed to provide students with a broad understanding of the roles and functions of administrative agencies in the American system of government as well as prepare them for professional careers in public service at the federal, state, regional, or local level. Satisfactory completion of program requirements leads to the degree of Bachelor of Arts with a major in Public Administration.

**BACHELOR OF ARTS: PUBLIC ADMINISTRATION**

**Degree Requirements**

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 68 and 103)

3. Required Courses (31 semester hours)
   - PAD 3003 Introduction to Public Administration 4 hours
   - PAD 4034 Public Policy Administration 4 hours
   - PAD 4104 Administrative Theory 4 hours
   - PAD 4110 Intergovernmental Relations 4 hours
   - PAD 4204 Fiscal Management 4 hours
   - PAD 4414 Public Personnel Administration 4 hours
   - LEA 4801 Administrative Law 4 hours
   - STA 2014 Principles of Statistics or a course in Social Science Research utilizing statistical methods 3 hours

Total Semester Hours Required 120
4. Restricted Electives
   a. Twelve (12) additional semester hours of Public Administration coursework (may include GEO 3602).
   b. Ten (10) semester hours in an Allied Public Service Field. This field and the corresponding courses are selected with and approved by the student’s advisor. The courses may come from, but not necessarily be limited to, such disciplines as accounting, allied legal services, communications, computer sciences, criminal justice, economics, geography, health, management, political science, social work, sociology and statistics.

5. Electives

<table>
<thead>
<tr>
<th>Total Semester Hours Required</th>
<th>120</th>
</tr>
</thead>
</table>

DEPARTMENT OF SOCIOLOGY
Chairman: W. R. Brown, LR 114G, Phone 275-2227
Faculty: Abel, Allen, Cook, Dees, Green, Hodgin, Jones, Kazmerski, Miller, Stearman, Tropf, Unkovic, Wallace, Wando, Washington, Wright

The Department of Sociology offers the student an opportunity to obtain a Bachelor of Arts in Sociology, Anthropology, or Social Work.

Students should consult with their advisors early in their academic career if they plan to pursue graduate work or to select an area of specialization within the Department.

MINORS

The Department of Sociology offers the following minors consisting of the number of semester hours indicated in each minor:

1. Anthropology
   Required Courses: ANT 2003, SOC 2000, ANT 3000, 3410, 3422, LIN 4020, eight additional hours to be chosen in consultation with the student's advisor. No more than two courses can be transferred from other Sociology/Anthropology departments and no more than eight semester hours of 1000 and 2000 level Sociology/Anthropology courses can be applied. Minimum number of semester hours required—27.

2. Sociology
   Required Courses: SOC 2000, 3201, and 3640 or SOC 3600; and a minimum of 9 semester hours of courses with SOC, MAF, or DHE prefixes. No more than two Sociology courses may be transferred from another sociology department and no more than eight semester hours of 1000 or 2000 level Sociology courses can be applied. Minimum number of semester hours required—18.

Lists of several different suggested minors in Sociology that complement other majors are available in the department.

BACHELOR OF ARTS: SOCIOLOGY

Degree Requirements

The Sociology curriculum is designed to give students the perspective, competencies, and experience needed to work effectively in the areas of human relations, organizational problems, and social research and evaluation in business, industry, governmental, planning, and social organizations. Lists of areas of specialization are available in the Sociology Department. A minimum of 41 semester hours are required for a major.

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 68 and 105)

3. Required Courses (23 semester hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 2000</td>
<td>General Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 3201</td>
<td>Social Institutions</td>
<td>3</td>
</tr>
<tr>
<td>ANT 2003</td>
<td>General Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 3640</td>
<td>Development of Social Thought</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC 3600</td>
<td>Modern Sociological Thought</td>
<td>3</td>
</tr>
<tr>
<td>SOC 3500</td>
<td>Research Methods</td>
<td>4</td>
</tr>
</tbody>
</table>

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Data Analysis PR: A course in Statistics 4 hours
Applied Sociology 3 hours

4. Restricted Electives
One course from each of the four following groups (12 hours) plus 6 additional hours from any of the groups below.

1. Family
MAF 4501 The Family 3 hours
SOC 3834 Sex Roles in Modern Society 3 hours
SOC 4241 Sociology of Aging 3 hours

2. Social Problems
SOC 3020 Social Problems 3 hours
SOC 3110 Sociology of Deviant Behavior 3 hours
SOC 3130 Juvenile Delinquency 3 hours
SOC 3150 Criminology 3 hours
SOC 3251 Sociology of Mental Illness 3 hours
SOC 3161 Sociology of Alcoholism 3 hours
SOC 4160 Sociology of Drug Abuse 3 hours
SOC 3745 Race & Ethnic Minorities in the U.S. 3 hours
SOC 3720 Afro-American Social Problems 3 hours

3. Social Processes
DHE 4101 Population 3 hours
SOC 3410 Social Stratification 3 hours
SOC 3402 Social Change: A Historical and Theoretical Approach 3 hours
SOC 3850 Collective Behavior 3 hours
SOC 4432 Contemporary Social Movements 3 hours
SOC 4830 Society and the Individual 3 hours

4. Social Organization
SOC 3310 Urban Sociology 3 hours
SOC 3671 Modern Organizations 3 hours
SOC 4221 Political Sociology 3 hours
SOC 4281 Sociology of Education 3 hours
SOC 4262 Sociology of Occupations & Professions 3 hours
SOC 4334 Soviet Sociology 3 hours
SOC 4230 Medical Sociology 3 hours

Special Courses: Qualified students may apply for an Internship in Field Experience, Social Research Practicum (SOC 4509).

5. Electives
Total Semester Hours Required 18 hours

BACHELOR OF ARTS: ANTHROPOLOGY
The Anthropology Program offers undergraduate training in all four subfields of the discipline: Physical Anthropology, Archeology, Linguistics and Cultural Anthropology. In addition, area studies dealing with the North American Indians and Latin American Culture are available to the student. In keeping with the holistic nature of the discipline, students are required to pursue a course of study which comprehends all four subfields of Anthropology. A minimum of 45 semester hours are required for a degree.

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 68 and 105)
3. Required Courses (30 hours)
   ANT 2003 General Anthropology 3 hours
   SOC 2000 General Sociology 3 hours
   ANT 3000 Introduction Archeology/Physical 3 hours
   ANT 3410 Introduction Social Anthropology 3 hours

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ANT 3511  Physical Anthropology  3 hours  
ANT 4086  Method and Theory  3 hours  
ANT 3422  Comparative Social Organizations  3 hours  
LIN 4020  Anthropological Linguistics  3 hours  
ANT 4705  Applied Anthropology  3 hours  
SOC 3500  Research Methods  3 hours  

4. Restricted Electives (15 hours) 
Area Studies (Select two) 
ANT 3312  Ethnology of North American Indians  3 hours  
ANT 3313  Plains Indians of North America  3 hours  
ANT 3332  Peoples and Cultures of Latin America  3 hours  
Specialized Studies (Select three) 
ANT 3241  The Anthropology of Religion  3 hours  
ANT 3432  Culture and Personality  3 hours  
ANT 3424  Culture and Community  3 hours  
SOC 3320  Rural Sociology  3 hours  
SOC 3334  Sex Roles  3 hours  
ANT 3464  Human Microevolution  3 hours  
ANT 3512  Biobehavioral Anthropology  3 hours  
ANT 3553  Primatology  3 hours  
ANT 3142  Old World Prehistory  3 hours  
ANT 3144  New World Prehistory  3 hours  
ANT 3122  Archeological Methods  3 hours  
ANT 3141  Prehistory of Complex Societies  3 hours  

5. Electives 
Total Semester Hours Required  120

**BACHELOR OF ARTS: SOCIAL WORK**

This professional degree program is accredited by the Council on Social Work Education. Its primary focus is the preparation of students for entry-level professional social work practice within diverse human service organizations such as hospitals, schools, correctional settings, public welfare departments, child placement organizations, community centers and counseling agencies.

Before applying for the professional phase of the program, students are to have completed courses in biology, economics, political science, psychology, sociology and statistics. Applications to this limited access program may be obtained at the Department of Sociology.

**Degree Requirements**

1. University graduation requirements  
(See pages 41-43)  
2. Special college and/or department requirements  
(See pages 68 and 105)  
3. Required Courses (45 hours)  
SOW 3302  Introduction to Social Welfare and Social Work  3 hours  
SOW 3104  Human Growth and Development  3 hours  
SOW 3191  Assessing Human Systems  3 hours  
SOW 3232  Social Welfare Policy, Services and Issues  3 hours  
SOC 3504  Social Research  3 hours  
SOW 4300  Generalist Practice in Social Work  3 hours  
SOW 4352  Interpersonal Skills in Social Work Practice  3 hours  
SOW 4341  Micro-Level Roles and Interventions in Social Work  3 hours  
SOW 4343  Macro-Level Roles and Interventions in Social Work  3 hours  
SOW 4431  Evaluating Social Work Practice and Service Programs  3 hours  
SOW 4620  Social Work with Minorities  3 hours  
SOW 4510  Field Education  9 hours  
SOW 4522  Field Education Seminar  3 hours  

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4. Restricted Electives (9 hours)
   These electives are to be courses consistent with the objectives of the Social Work Program and chosen with the approval of the student’s faculty advisor. 9 hours

5. Electives

Total Semester Hours Required 120

MAJOR IN SOCIAL SCIENCES
Contact Person: D. Dees, CB 303, Phone 275-2492
This unique program offers students an opportunity to become acquainted with the various fields of Social Sciences and to understand better the relationships between those fields. Satisfactory completion of the program leads to the degree Bachelor of Science with a major in Social Sciences.

BACHELOR OF SCIENCE: SOCIAL SCIENCES
Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 68 and 109)
3. Required Courses
   None
4. Restricted Electives
   a. Choose one
      POS 3703  Scope and Methods of Political Science  4 hours
      PSY 4214  Research Methods (Psychology)  3 hours
      SOC 3500  Research Methods (Sociology)  3 hours
   b. A minimum of 15 semester hours in each of four Social Science disciplines. The following are the required courses for each discipline selected:
      Communication
      COM 1000  Basic Communication  3 hours
      COM 3311  Communication as a Behavioral Science  3 hours
      Economics
      ECO 2013  Principles of Macroeconomics  3 hours
      ECO 2023  Principles of Microeconomics  3 hours
      Political Science
      POS 2041  American National Government  3 hours
      Psychology
      PSY 2013  General Psychology  3 hours
      PPE 3003  Personality Theory  3 hours
      Public Service Administration
      PAD 3003  Introduction to Public Administration  4 hours
      CCJ 2020  Introduction to Criminal Justice  4 hours
      or
      LEA 3001  Law and the Legal System  4 hours
      Sociology
      SOC 2000  General Sociology  3 hours
      ANT 2003  General Anthropology  3 hours

5. Electives

Total Semester Hours Required 120

DEPARTMENT OF THEATRE
Director: H. Smith, FA 514, Phone 275-2861
Faculty: Ippolito, Smith, Welsch
The Department of Theatre offers the student an opportunity to concentrate in the area of theatre either as a preparation for graduate or professional study or as a course of study in the liberal arts.
The major in Theatre offers three separate areas of concentration. There are five courses (16 hours) required of all theatre majors: THE 1020 (3), THE 2071 (3), THE 2925 (2, 2), THE 3312 and THE 3313 (3, 3).

**MINORS**

The Department of Theatre offers a minor consisting of a minimum of 24 hours, as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE 1020</td>
<td>Theatre Survey</td>
<td>3</td>
</tr>
<tr>
<td>TPP 2210</td>
<td>Tech. Theatre Production</td>
<td>3</td>
</tr>
<tr>
<td>THE 2071</td>
<td>Cinema Survey</td>
<td>3</td>
</tr>
<tr>
<td>TPP 2110</td>
<td>Acting I</td>
<td>3</td>
</tr>
<tr>
<td>TPP 3310</td>
<td>Directing I</td>
<td>3</td>
</tr>
<tr>
<td>TPP 3130</td>
<td>Classical/Mime</td>
<td>3</td>
</tr>
<tr>
<td>or TPP 3111</td>
<td>Acting II</td>
<td>3</td>
</tr>
<tr>
<td>DAA 3200</td>
<td>Theatre Dance I</td>
<td>3</td>
</tr>
<tr>
<td>TPP 3250</td>
<td>Makeup Technique</td>
<td>3</td>
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</tbody>
</table>

**Program "A" Performance**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPP 2110</td>
<td>Acting I</td>
<td>3</td>
</tr>
<tr>
<td>TPP 3111</td>
<td>Acting II</td>
<td>3</td>
</tr>
<tr>
<td>TPP 3130</td>
<td>Classical/Mime</td>
<td>3</td>
</tr>
<tr>
<td>TPP 3250</td>
<td>Makeup Technique</td>
<td>3</td>
</tr>
<tr>
<td>DAA 3200</td>
<td>Theatre Dance I</td>
<td>3</td>
</tr>
<tr>
<td>TPP 3310</td>
<td>Directing I</td>
<td>3</td>
</tr>
<tr>
<td>TPP 4112</td>
<td>Acting III</td>
<td>3</td>
</tr>
<tr>
<td>TPP 4311</td>
<td>Directing II</td>
<td>3</td>
</tr>
<tr>
<td>THE 4800</td>
<td>Children's Theatre</td>
<td>3</td>
</tr>
<tr>
<td>TPP 4140</td>
<td>Performance Styles</td>
<td>3</td>
</tr>
<tr>
<td>TPP 3700</td>
<td>Stage Diction</td>
<td>3</td>
</tr>
</tbody>
</table>

**Restricted Electives**

- MUL 2011
- MUN 3340 or 3341
- ARH 2050
- RTV 3230

**Total Semester Hours Required**

- Program "A": 24

**Program "B" Technical Theatre & Design**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPA 2210</td>
<td>Technical Theatre Production</td>
<td>3</td>
</tr>
<tr>
<td>TPA 2082</td>
<td>Stage Properties</td>
<td>3</td>
</tr>
<tr>
<td>THE 3230</td>
<td>Theatrical Costume History and Design</td>
<td>3</td>
</tr>
<tr>
<td>TPA 3250</td>
<td>Makeup Techniques</td>
<td>3</td>
</tr>
<tr>
<td>TPA 3060</td>
<td>Scene Design I</td>
<td>3</td>
</tr>
<tr>
<td>TPA 3220</td>
<td>Stage Lighting</td>
<td>3</td>
</tr>
<tr>
<td>TPA 3221</td>
<td>Lighting Design</td>
<td>3</td>
</tr>
<tr>
<td>THE 3925</td>
<td>Theatre Practicum II</td>
<td>2, 2</td>
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<tr>
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</tr>
<tr>
<td>TPP 3310</td>
<td>Directing I</td>
<td>3</td>
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</tbody>
</table>

**Restricted Electives**

- MUL 2011
- Any ARH or ART
- THE 3251 or 4072

**Total Semester Hours Required**

- Program "B": 120

**Program "C" Film**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>THE 3251</td>
<td>History of Motion Picture</td>
<td>3</td>
</tr>
<tr>
<td>THE 4072</td>
<td>Principles of Motion Picture Art</td>
<td>3, 3</td>
</tr>
<tr>
<td>TPP 3310</td>
<td>Directing I</td>
<td>3</td>
</tr>
<tr>
<td>or TPP 2210</td>
<td>Acting I</td>
<td>3</td>
</tr>
<tr>
<td>TPA 3060</td>
<td>Scene Design</td>
<td>3</td>
</tr>
<tr>
<td>ART 3600C</td>
<td>Photography</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Semester Hours Required**

- Program "C": 120
THE 4073 Film Production 3, 3 hours
THE 4075 Modern Motion Picture Technique 3 hours
Special Topics and/or Independent Study in Film 6 hours
Restricted Electives 3-9 hours
TPA 3220 Stage Lighting 3 hours
Total Semester Hours Required 120

4. Restricted Electives
See each program.
5. Electives

PREPROFESSIONAL PROGRAMS

Preprofessional Coordinator: R. Laird, AD 214, Phone 275-2691

The Office of the Preprofessional Coordinator has been created to operate as a service to all students preparing for and seeking admission to professional schools of dentistry, medicine, optometry, pharmacy, podiatry and veterinary medicine. The services afforded the student through his office are numerous and range from simple advising and counseling in preprofessional matters to providing a Composite Evaluation of the student upon his request to each professional school to which he desires to apply. However, in order to be considered for a Composite Evaluation, the student must have a minimum of a 2.8 overall GPA and at least 30 semester hours of typical undergraduate preprofessional courses taken at UCF by the end of the Spring Semester preceding his application to the professional school. Additionally during the first week of every term, each preprofessional student must register with the Office of Preprofessional Coordinator his or her interest to begin or continue participation in the preprofessional program. Finally, all preprofessional students are strongly encouraged to affiliate with and participate in the activities of the Preprofessional Medical Society (VC 142).

PREPROFESSIONAL PLANNING

Preprofessional students should bear in mind that admission to a health professional school is competitive, that is, the professional schools have many more applicants than places available and they select those applicants they feel have the best credentials. In general, the best applicants have credentials that significantly exceed stated admission requirements. For this reason, preprofessional students should pay close attention to the characteristics of successful applicants. For example, while many dental and medical schools require only two and three years respectively of college preparation, more than 91 percent of all predental and 95 percent of all premedical students accepted throughout the nation last year had four years of college. Consequently, since majors such as “premed” do not lead to a degree, each preprofessional student is urged to pursue a degree granting program not only to become more competitive for admission, but also to prepare for an alternate career in the event admission to a professional school is denied. Any degree granting program offered by the University may be selected as a major; however, those programs within the sciences will generally lend themselves most easily to preprofessional preparation due to the nature and content of their curricula. While satisfying degree requirements, students will find in their curricula many courses required for admission to most professional schools. Additionally, prudent use of elective hours in the curricula will permit other appropriate preprofessional courses to be obtained.

Obviously, preprofessional students are expected to be high achievers, to obtain good grades with heavy loads and rigorous course combinations. Most professional schools expect applicants to present at least a B average and to carry a minimum of 15 credit hours every term they are enrolled.

Concerning required courses, all preprofessional students are required to complete the General Education Program (GEP) plus the following courses, many of which are applicable to the GEP.

- General biological sciences, BSC 1010C, ZOO 1010C
- Genetics, PCB 3063 and 3063L
- General Chemistry, CHM 2045, 2406, 2046L

PREPROFESSIONAL PLANNING

Preprofessional students should bear in mind that admission to a health professional school is competitive, that is, the professional schools have many more applicants than places available and they select those applicants they feel have the best credentials. In general, the best applicants have credentials that significantly exceed stated admission requirements. For this reason, preprofessional students should pay close attention to the characteristics of successful applicants. For example, while many dental and medical schools require only two and three years respectively of college preparation, more than 91 percent of all predental and 95 percent of all premedical students accepted throughout the nation last year had four years of college. Consequently, since majors such as “premed” do not lead to a degree, each preprofessional student is urged to pursue a degree granting program not only to become more competitive for admission, but also to prepare for an alternate career in the event admission to a professional school is denied. Any degree granting program offered by the University may be selected as a major; however, those programs within the sciences will generally lend themselves most easily to preprofessional preparation due to the nature and content of their curricula. While satisfying degree requirements, students will find in their curricula many courses required for admission to most professional schools. Additionally, prudent use of elective hours in the curricula will permit other appropriate preprofessional courses to be obtained.

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Concerning required courses, all preprofessional students are required to complete the General Education Program (GEP) plus the following courses, many of which are applicable to the GEP.

- General biological sciences, BSC 1010C, ZOO 1010C
- Genetics, PCB 3063 and 3063L
- General Chemistry, CHM 2045, 2406, 2046L
Organic Chemistry, CHM 3210, 3211, 3211L
Microbiology, MCB 2013C
English Composition, ENC 1101, 1102
Calculus, MAC 3233 (although MAC 3233 is acceptable, the MAC 3311, 3312, sequence is preferable)
Physics, PHY 2050C, 2051C (although the preceding courses are acceptable, the sequence PHY 2040, 2040L, 2041L, is preferable)
Statistics, STA 3023
Furthermore, additional required/strongly recommended courses not common to all preprofessional students are the following:

**Premedical and predental students should take**
- Cell Physiology, PCB 3203
- Comparative Anatomy, ZOO 3713C
- Embryology, ZOO 4603C
- Histology, ZOO 3753C
- Microbiology, MCB 3203C, and PCB 3233C
- Analytical Chemistry, CHM 3121C plus either (or both) Biochemistry, CHM 4053, 4054, or Physical Chemistry, CHM 3410.
- Physics of Scientific Instruments, PHY 3752C.

**Preoptometry students must take**
- General Botany, BOT 1010C
- Microbiology, MCB 3203C and it is strongly recommended they take Human Anatomy and/or Human Physiology, ZOO 3733C, PCB 3703C and Physics of Scientific Instruments, PHY 3752C.

**Prepharmacy students must take**
- General Botany, BOT 1010C
- Microbiology, MCB 3203C and it is strongly recommended they take Physics of Scientific Instruments, PHY 3752C.

**Preveterinary students must take**
- General Botany, BOT 1010C
- Analytical Chemistry, CHM 3121C
- Microbiology, MCB 3203C
- Animal Science, these courses to be taken as a transient student at the University of Florida, preferably during the summer following the sophomore year.
- Additionally, the UCF courses Histology (ZOO 3753C), Embryology (ZOO 4603C) and Physics of Scientific Instruments (PHY 3752C) are strongly recommended.

All preprofessional students are strongly encouraged to make prudent selections of elective courses complementary to their preprofessional preparation. Listed below are a number of appropriate courses from which elective selections can be made.

- **Accountancy:** ACC 2001 and 2021, or ACC 3003.
- **Communications:** SPC 3301 or 4330.
- **Health Sciences:** APB 3600; HSC 3328, 4302, 4411; SPA 3001.
- **Literature:** LIT 2110 and 3120.
- **Management:** GEB 3004.
- **Philosophy:** PHI 3600, 3630.
- **Political Science:** PUP 4602.
- **Psychology:** CLP 3143; DEP 3004, 3202, 3212, EAB 3704; GEY 3610; PSB 3002, 3442, 4032.
- **Sociology:** SOC 3020, 3110, 3161, 3251, 4160, 4230; SOW 3203.

Various nationally standardized examinations are required of applicants as a part of the admissions process to the professional schools [dentistry-DAT; medicine-MCAT; optometry-OCAT; pharmacy-PCAT; podiatry-MCAT; veterinary medicine-GRE]. These examinations are generally offered twice each year: in the spring and fall. Preprofessional students are advised to take the appropriate examination in the spring preceding application to the professional school rather than waiting for the fall examination.

Publications of special interest and usefulness to preprofessional students include the following:
1. *Admission Requirements of U.S. and Canadian Dental Schools*, published by the American Association of Dental Schools;
2. *Medical School Admission Requirements, United States and Canada*, published by the Association of American Medical Colleges;
4. *Information for Applicants to Schools and Colleges of Optometry*, published by the Association of Schools and Colleges of Optometry;
5. *Pharmacy School Admission Requirements*, published by the American Association of Colleges of Pharmacy;

Each preprofessional student is encouraged to obtain a copy of the publication appropriate to his preprofessional area. Several of these are usually available in the University bookstore.
DOCTOR OF PHILOSOPHY
A graduate program leading to the Ph.D. degree is offered by the Department of Computer Science.

MASTER OF ARTS
Graduate programs leading to the degree of Master of Arts are offered by the Departments of Communication, English, History and Sociology.

MASTER OF SCIENCE
Graduate programs leading to the degree of Master of Science are offered by the Departments of Biological Science, Chemistry, Computer Science, Mathematics and Statistics, Political Science, Psychology, and Public Policy Administration (MPP).

MASTER OF SCIENCE: BIOLOGICAL SCIENCE
Program Coordinator: F. Snelson, BL 203, Phone 275-2144
The Department of Biological Sciences offers graduate work with research and courses in biology, botany, limnology, microbiology and zoology under three options: (1) Biological Sciences Thesis, (2) Biological Sciences Nonthesis, and (3) Microbiology Thesis.

Admission Requirements
1. University Admission requirements
   (See pages 41 and 60)
2. Program Admission requirements
   Minimal requirements for admission normally are a grade point average (GPA) of at least 2.7 for the last 60 semester hours of undergraduate study and a score of at least 1000 on the combined quantitative-verbal sections of the Graduate Record Examination (GRE). In addition, the Department requires letters of recommendation and a written statement of past experience and research, area of interest, and immediate and long-range goals. Personal interviews are helpful but not required.
   Applicants who fail to meet either the minimum program GPA or GRE requirements may occasionally be accepted if there is other convincing evidence of potential for high achievement and success. Applicants failing to satisfy minimum program criteria should submit an advanced Biological Sciences section GRE score at or above the 50th percentile. In no case will GRE scores (verbal, quantitative or advanced) older than seven years be accepted.
   Applicants need not have an undergraduate degree in a biological science but are expected to have the equivalent of 16 semester hours credit in the biological sciences, including at least 3 credit hours each in botany, microbiology and zoology; plus 6 hours in organic chemistry; and basic college mathematics and statistics. Minor deficiencies can be remedied after acceptance by enrollment at the first opportunity in an appropriate course.

Degree Requirements
1. University Graduate Requirements
   See the current UCF Graduate Procedures Manual available in the Program Coordinator’s office.
2. College or Department Requirements: as specified above under Admissions Requirements plus any background deficiencies as determined by advisor or committee.
3. Required Courses: Varies with option (see Area of Specialization). 15-17 hours
4. Restricted Electives: Varies with option (see Area of Specialization). 7-23 hours
5. Thesis/Research report: Varies with option (see Area of Specialization). 6-2 hours
6. Examinations: Final oral examinations covering (a) course work, general comprehension in biology (all students) and (b) thesis research and results (thesis students only).

<table>
<thead>
<tr>
<th>Total Semester Hours Required</th>
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<tbody>
<tr>
<td>Thesis Option</td>
<td>30</td>
</tr>
<tr>
<td>Nonthesis Option</td>
<td>40</td>
</tr>
</tbody>
</table>
AREAS OF SPECIALIZATION (OPTIONS)

Students must select one of the following three options:

1. Biological Sciences Thesis Option
   Group A (13-14 hours—three of the four courses)
   1. PCB 5046C Advanced Ecology 5 hours
   2. PCB 5675 Evolutionary Biology 4 hours
   3. PCB 6585 Advanced Genetics 5 hours
   4. PCB 6746C Organismal Physiology 4 hours

   Group B (8 hours—all courses)
   1. BCS 6938 Biology Seminar 2 hours
   2. BSC 6971 Thesis 6 hours

   Group C (8-9 hours minimum)
   Restricted electives acceptable to student's graduate committee.

2. Biological Sciences Nonthesis Option
   Group A (13-14 hours—three of the four courses)
   1. PCB 5046C Advanced Ecology 5 hours
   2. PCB 5675 Evolutionary Biology 4 hours
   3. PCB 6585 Advanced Genetics 5 hours
   4. PCB 6746C Organismal Physiology 4 hours

   Group B (4 hours—all courses)
   1. BSC 6918 Research Report 2 hours
   2. BSC 6938 Biology Seminar 2 hours

   Group C (22-23 hours minimum)
   Restricted electives acceptable to student's graduate committee or advisor.

3. Microbiology Thesis Option
   Group A (23 hours—all courses)
   APB 5581C Applied Microbiology 3 hours
   BSC 6938 Biology Seminar 1 hour
   MCB 5205 Infectious Processes 3 hours
   MCB 5505C Virology 3 hours
   MCB 6417 Microbial Metabolism 3 hours
   MCB 6938 Microbiology Seminar 1 hour
   MCB 6971 Thesis 6 hours
   PCB 6235C Immunochemistry 3 hours

   Group B (7 hours minimum)
   Restricted electives acceptable to student's graduate committee.

MASTER OF SCIENCE: INDUSTRIAL CHEMISTRY

Program Coordinator: J. Gupton, SC 331, Phone 275-2246

The Department of Chemistry offers graduate work leading to the Master of Science in Industrial Chemistry. This Program is aimed particularly at preparing a student for a career in the chemical industry or in related industries which utilize chemical processing techniques. The primary emphasis is upon chemistry and the application of the theoretical principles of chemistry to the development of products and processes.

Admission Requirements
1. University Admission Requirements
   (See pages 41 and 60)
2. Program Admission Requirements
   a. Baccalaureate degree from an accredited institution
   b. Departmental evaluation based upon
      (1) Transcripts
      (2) Letters of recommendation (2)
      (3) Proficiency examinations which may be required. (Results may be used to aid in planning the student's program of study. Deficiencies may require remedial course work.)

Degree Requirements
1. University Graduate Requirements
See the current UCF Graduate Procedures Manual available in the Program Coordinator’s Office.

2. College or Department Requirements: See admission requirements above.

3. Required Requirements: The following courses are required.

- CHM 5710, 5711: Chemical Structure I and II (4 hours)
- CHS 5240, 5241: Chemical Dynamics I and II (4 hours)
- CHS 5250, 5251: Chemical Synthesis I and II (4 hours)
- CHS 6260C: Laboratory Principles of Industrial Chemistry (4 hours (2, 6))
- CHS 6261: Chemical Processes (3 hours)

4. Restricted Electives: Three hours of an approved elective can be substituted for three hours of research.

5. Research:

- CHM 6918: Research (A Research Report is required) (11 hours)

6. Examinations: Satisfactory completion of a comprehensive examination is required.

Total Semester Hours Required: 30

MASTER OF ARTS: COMMUNICATION

Program Coordinator: A. Pryor, FA 528A, Phone 275-2681

The Department of Communication offers a diversified program, individual and flexible, leading to the Master of Arts Degree in Communication. Instruction is offered in communication theory and research, mass communication, management, persuasion, small group communication, and other areas drawn from the divisions of Journalism, Radio-Television, and Speech.

Admission Requirements

1. University Admission Requirements

(See pages 41 and 60)

2. Program Admission Requirements

a. To be considered for admission, applicants must submit a quantitative-verbal GRE score dating from no longer than 5 years previous to application for admission;

b. Three letters of recommendation from undergraduate professors.

Degree Requirements

1. University Graduate Policies and Procedures

See the current UCF Graduate Procedures Manual, available in the Program Coordinator’s Office.

2. College or Department Requirements: none

3. Required Courses:

- SPC 6219: Modern Communication Theory (3 hours)
- COM 6300: Introduction to Graduate Study (3 hours)
- COM 6312: Research Methods (3 hours)

A GPA of no less than 3.0 in a specified program of study is required for graduation.

4. Restricted Electives: 9-10 hours of prescribed courses from communication effects, mass media, organizational communication, or specific courses approved by the student committee. Twelve additional hours approved by the student’s committee.

5. Thesis: A four semester hour credit thesis is required.

6. Examinations: Students must pass a comprehensive written and oral examination. Students may be required to demonstrate a proficiency in statistics and computer programming.

MASTER OF SCIENCE: COMPUTER SCIENCE

Program Coordinator: J. L. Gersting, FA 445, Phone 275-2341

The Department of Computer Science offers a M.S. degree in Computer Science with emphasis in the areas of programming systems/languages, information systems, computer architecture, and computational methods. The “hands on” use of our computer laboratories is strongly encouraged. (A majority of the graduate level courses are offered in the evening to better serve the working student.)
Admission Requirements

1. University Admission Requirements
   (See pages 41 and 60)

2. Program Admission Requirements
   Admission to regular graduate student status in Computer Science must be approved by the Graduate Committee in Computer Science. Each student is required to submit a score on the Advanced Record Examination that is not more than two years old at the time of admission to regular graduate status. International students must obtain a minimum score of 520 on the TOEFL examination. An undergraduate degree in Computer Science is desirable but not required. Applicants without a strong undergraduate background in Computer Science will be required to demonstrate an understanding of the material covered in COP 4530, 4550, 4620, CDA 4102, COT 4001, and CNM 4110; i.e., take the deficient course or score well on the advanced GRE in Computer Science. A student may be admitted to regular graduate status with only the knowledge of four of the listed courses, with the requirement that the other two courses, be placed on his graduate plan of study. Applicants not qualified for regular status will be initially admitted to the University in a post-baccalaureate status. While in this latter classification, students may not take 6000-level courses in Computer Science, and cannot receive a degree.

Degree Requirements

1. University Policies and Procedures
   Computer Science graduate programs follow the guidelines of the University of Central Florida's Graduate Procedures Manual. A copy of the Manual is available in the Program Coordinator's Office.

2. College or Department Requirements: See Admission requirement above.

3. Required Courses: The following courses are required
   
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
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<tr>
<td>CDA 5108</td>
<td>Analysis of Computer Architecture</td>
<td>3</td>
</tr>
<tr>
<td>CIS 5012</td>
<td>Information and File Systems</td>
<td>3</td>
</tr>
<tr>
<td>CNM 5142</td>
<td>Computational Methods/Linear Systems</td>
<td>3</td>
</tr>
<tr>
<td>COT 5314</td>
<td>Computational Complexity</td>
<td>3</td>
</tr>
<tr>
<td>COP 5554</td>
<td>Programming Languages II</td>
<td>3</td>
</tr>
<tr>
<td>COP 5613</td>
<td>Operating System Design Principles</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Restricted Electives
   Two 6000 level Computer Science courses within a single area of specialization must be taken. Graduate courses in related disciplines outside of Computer Science and 4000 level Computer Science courses may be approved for a maximum of 6 hours.

5. Research Report:
   CAP, CDA, CIS, CNM, COC, COP, COT 6918 Research Report 3 hours

6. Examination:
   Oral defense of Research Report

   Total Semester Hours Required 30

AREAS OF SPECIALIZATION

1. Computational Methods (6000 level CNM or COT courses, STA 6807)
2. Computer Organization and Architecture (6000 level CDA courses, CAP 6723)
3. Information Systems (6000 level CIS courses)
4. Programming Systems and Languages (6000 level COP or CAP courses)

DOCTOR OF PHILOSOPHY: COMPUTER SCIENCE

Program Coordinator: J. L. Gersting, FA 445, Phone 275-2341

The Department of Computer Science offers a Ph.D. degree in Computer Science. Students receive a broad background in the areas of programming systems/languages, information systems, computer architecture, and computational methods before specializing in a research area. Research interests of the faculty include parallel and non-numeric computer architecture, computer assisted instruction, data base management systems, storage/retrieval systems, computer graphics, parser generating systems,
interactive graphic system of instruction, distributed processing/networking and computational complexity.

The student must spend two consecutive semesters as a full time student at UCF (registered for a minimum of 9 hours). At least one of the semesters must be while the student holds candidacy status.

**Admission Requirements**

1. University Admission Requirements
   (See pages 41 and 60)

2. Program Admission Requirements
   Admission to the Ph.D. program in Computer Science must be approved by the Graduate Committee in Computer Science. Each student must first gain admission to regular graduate status in Computer Science (see Program Admission Requirements on page 114). He or she must then pass the Ph.D. Qualifying Examination and obtain a qualified Computer Science faculty member to chair his or her advisory committee.

**Degree Requirements**

1. University Policies and Procedures
   Computer Science graduate programs follow the guidelines of the University of Central Florida's Graduate Procedures Manual. A copy of the Manual is available in the Program Coordinator's office.

2. College or Department Requirements: see Admission Requirements above.

3. Required Courses:
   Following admission to the Ph.D. program, the student, in conjunction with his or her major advisor and his or her committee, will formulate a plan of study. The plan will consist of a minimum of 60 semester hours of graduate credit as follows:

   **Core Courses:**
   - Analysis of Computer Architecture 3 hours
   - Information and File Systems 3 hours
   - Computational Methods/Linear Systems 3 hours
   - Computational Complexity 3 hours
   - Programming Languages II 3 hours
   - Operating System Design Principles 3 hours

   4. Restricted Electives: 24 hours
   A minimum of 24 hours of advanced graduate level courses in the doctoral area of specialization and appropriate related areas, including a minimum of 6 hours from a discipline outside computer science.
   No more than 12 semester hours of independent study may be included. These hours may not be applied toward the minimum 60 hours.

5. Research:
   Each student is expected to demonstrate competency in an area relevant to his/her research. Any course credit earned in obtaining the required skills does not apply toward the hour requirements for the degree.
   Ph.D. Research/Dissertation 18 hours

6. Examinations:
   a. Qualifying Examination consisting of a Breadth Examination covering 4 of the core courses and a Depth Examination taken in at least two areas of specialization.
   b. Candidacy Examination consisting of an in-depth examination in the specialty area as defined by the plan of study, and a presentation of the research prospectus.

**MASTER OF ARTS: ENGLISH**

**Program Coordinator:** R. Adicks, FA 426, Phone 275-2212

The curriculum for the Master of Arts in English, which is ordinarily not a thesis degree, consists of courses in seminars in British, American, and world literature; linguistics; and the teaching of composition and creative writing. The Master of Arts program provides advanced study for persons holding the bachelor's degree in English or its equivalent. It also enables teachers holding the Graduate Florida certificate to acquire the Post Graduate certificate while developing competence for teaching English in college.
Admission Requirements
1. University Admission Requirements
   (See pages 41 and 60)
2. Program Admission Requirements:
   a. An undergraduate major in English, or its equivalent, with an average of B in all
      English courses. (Applicants without a major in English may remove any deficien­
      cies without graduate credit.)
   b. Approval by the Graduate committee of the Department of English.
   c. Three reference reports.

Degree Requirements
1. University Graduate Policies and Procedures
   See the current UCF Graduate Procedures Manual, available in the Program Coordi­
   nator's office.
2. College or Department Requirements: See Admission requirements above.
3. Required Courses:
   LIT 6009 (Literary Genres), LIT 6105 (World Literature), LIT 6365 (Movements in
   Literature), LIT 6535 (Major Author), and one course in linguistics on at least the 4000
   level.
4. Restricted Electives: None
6. Examinations: A comprehensive examination is required.

Total Semester Hours Required 30

MASTER OF ARTS: HISTORY
Program Coordinator: P. Wehr, FA 554, Phone 275, 2224

A Master of Arts in History will provide students with the opportunity to enhance their
knowledge of history, their understanding of the historian's craft and responsibilities, and
their recognition of the role history plays in today's society. The program has two options:
thesis or non-thesis, aimed at providing for the academic growth of secondary school
teachers, providing qualified teachers for community colleges, and contributing to the
professional or personal enrichment of the students.

Admission Requirements
1. University Admission Requirements
   (See pages 41 and 60)
2. Program Admission Requirements:
   a. Hold an undergraduate major in history with a 3.0 or higher GPA in the major.
      Applicants without a history undergraduate major may be admitted upon demon­
      stration of an equivalent background or by making up the deficiency, at the dis­
      cretion of the department graduate committee.
   b. Score of 500 or higher on verbal portion of GRE and 575 on TOEFL when appli­
      cable.
   c. Transfer students from outside the history department must submit three letters of
      recommendation.
   d. Approval by the graduate committee of the Department of History.

See the current UCF Graduate Procedures Manual, available in the office of Grad­
uate Studies.

Degree Requirements
1. University Graduate Policies and Procedures
   See the current UCF Graduate Procedures Manual, available in the Program Coor­
   dinator's office.
2. College of Department Requirements: No graduate credit will be given for any grade
   lower than "B."
3. Required Course: HIS 6159 Historiography 3 hours (Required of all students.)
   a. Students electing the professional track will be expected to earn a minimum of 36
      semester hours credit, with at least 18 semester hours in a concentration (U.S.
      or European) and at least 12 additional hours in areas outside the concentration
      (U.S., European, British, Asian, Latin American); electives may be selected in

history or course work outside the department with the approval of the student's graduate committee; complete a comprehensive thesis on a topic mutually suitable to the student and his directing professor (the student shall register for 6 thesis hours at his election); and, demonstrate a reading knowledge of a foreign language.

b. Students electing the non-thesis track will be expected to earn a minimum of 36 semester hours credit with at least 18 semester hours in a concentration (U.S. or European) and at least 12 of which shall be in areas outside the concentration (U.S., European, British, Asian, Latin American); additional hours in history or course work outside the department shall be completed for a total of 36 hours; complete a 3 hour practicum in the teaching of history at the college level.

4. Restricted Electives: See 3a & 3b above.
5. Thesis: See options
6. Examinations: Each candidate for the Master of Arts in History must pass written and oral examinations during the term in which the degree is to be awarded. The examinations will test the candidate's knowledge of history. It will include a thesis defense when that option is chosen. Students electing the non-thesis track shall be expected to participate in several seminars, each of which will require a research paper. Since each paper will require that the student demonstrate knowledge of research techniques, of bibliographic methods, and effective writing style, the research and writing skills normally expected in a thesis will not be ignored in this program.

MASTER OF SCIENCE: MATHEMATICAL SCIENCE

Program Coordinator: L. Andrews, FA 453, Phone 275-2585

The masters program in Mathematical Science is an interdisciplinary program intended to provide a broad base in applied mathematics, statistics and computer science. The emphasis throughout the program is on the use of the techniques of mathematical science in the formulation and solution of mathematical models encountered in the physical and life sciences, engineering and business. The program is offered entirely in the evening hours to accommodate the working student. A limited number of graduate teaching and research assistantships are available for qualified students.

Admission Requirements
1. University Admission Requirements
   (See pages 41 and 60)
   If the applicant does not have a GPA of 3.0 (4.0 = A) for the last 60 semester hours credited toward the earned Baccalaureate degree from an accredited institution, then a quantitative-verbal GRE score of 1000 or higher must have been achieved within the last five years.

2. Program Admission Requirements
   Students entering the graduate program with regular status are assumed to have a working knowledge in such areas as calculus, differential equations, linear algebra (or matrix theory), statistics and computer programming at the undergraduate level. Those students who find they are not adequately prepared in one or more of these areas can select appropriate courses from the undergraduate curriculum to make up such deficiencies. Applicants not qualified for regular status will be initially admitted to the University in a post-baccalaureate status.

Degree Requirements
1. University Graduate Policies and Procedures
   See the current UCF Graduate Procedures Manual available in the Program Coordinator's office.

2. College or Department Requirements: See Admission requirements above.

3. Required Courses:
   A minimum of 24 semester hours including graduate level mathematics, statistics and computer science courses which have been approved by the student's committee must be taken.

Suggested Mathematics courses for meeting this requirement are:

MAA 5211 Advanced Calculus 4 hours
MAA 5405  Techniques of Complex Variables  3 hours
MAP 6406  Methods of Mathematical Analysis  4 hours

Suggested Statistics courses for meeting this requirement are:
STA 5206  Statistical Analysis  3 hours
STA 5447  Applied Probability  4 hours
STA 5707  Multivariate Statistical Methods  3 hours
STA 5857  Applied Time Series Analysis  3 hours

Suggested Computer Science courses for meeting this requirement are:
CNM 5142  Computational Methods/Linear Systems  3 hours
CNM 5148  Computational Methods/Applications  3 hours
CNM 6144  Computational Methods/Analysis I  3 hours
CNM 6145  Computational Methods/Analysis II  3 hours

4. Restricted Electives
Electives may be chosen from approved mathematics, statistics or computer science courses which are taught by the Department of Mathematics and Statistics or the Department of Computer Science. Graduate courses outside these departments may also be used if approved by the student's committee.

5. Thesis or Research Report  2-6 hours
Anywhere from 2 to 6 semester hours of credit may be given for the writing of a paper on some appropriate topic. Ordinarily a paper which is of sufficient magnitude to justify awarding 4 or more hours of credit is considered a thesis. Otherwise it is considered a research report.

6. Examinations
a. A written and/or oral comprehensive examination over the core courses will be administered by the student's advisory committee. The form and nature of the examination(s) are at the discretion of the advisory committee.
b. An oral defense of the thesis will be required of those students who elect to write a thesis.

Total Semester Hours Required  
Thesis Option  24 (Course requirements)
Non-Thesis Option  27 (Course requirements)

MASTER OF ARTS: POLITICAL SCIENCE
Program Coordinator: W. Maddox, LR 254, Phone 275-2608

The Master of Arts in Political Science is sufficiently flexible to meet a range of student needs including (1) preparing students to enter positions in government or the private sector in which the ability to comprehend, influence, and respond to government policy is critical; (2) providing education for teachers in the community colleges; (3) providing education for secondary school teachers seeking higher degrees; and (4) providing a M.A. opportunity for students who wish to pursue a Doctorate in political science elsewhere. The program is designed to allow a full-time student to complete the degree in approximately one year. Students will be able to complete their studies through courses offered in the evening.

Although the emphasis of the M.A. is in American politics and institutions, courses are available in international relations, comparative politics, and political theory. Students also may take special topic seminars (POS 6938) when offered as well as directed independent research (POS 6918). Two core research courses (required of all students) provide training in analytical and statistical skills necessary to conduct research and solve problems involving political institutions, policy, and behavior. In addition, the program includes various options which allow students to define programs of study which meet their own needs.

Admission Requirements
1. University Admission Requirements
   (See pages 41 and 60)
2. Program Admissions Requirements
   a. Submission of three letters of recommendation from individuals capable of assessing the applicant's ability to undertake graduate work successfully.
b. Submission of a quantitative-verbal GRE score of 1000 or higher, or hold a 3.0 average in an undergraduate major in Political Science or related discipline (subject to approval of the department).
c. Admission to regular graduate status in Political Science must be approved by the Department of Political Science.

NOTE: Graduate credit from other institutions may be transferred into this program (up to 8 semester hours from a university in the Florida system, up to 6 hours from universities outside the Florida system) if the institutions are fully accredited, if the courses are deemed appropriate by the faculty, and if a grade of B or better was earned.

Degree Requirements
1. University Graduate Policies and Procedures
   See the current UCF Graduate Procedures Manual, available in the Program Coordinator's office.
2. College or Department Requirements: Undergraduate study in Political Science is desirable. Individuals with strong backgrounds in related disciplines may be accommodated. In some cases additional course work may be required to remove deficiencies.
3. Required Courses:
   - POS 6734 Research Methods 3 hours
   - POS 6746 Quantitative Methods 3 hours
4. Restricted Electives: All Political Science course work toward the degree must be at the graduate level.
   Complete at least four of the following seminars:
   - INR 6007 Seminar in International Politics
   - CPO 6007 Seminar in Comparative Politics
   - POS 6045 Seminar in American National Politics
   - POS 6207 Seminar in Political Behavior
   - POT 6007 Seminar in Political Theory
   - POS 6197 Seminar in Subnational Politics
   - PUP 6007 Seminar in Public Policy
   12 hours
   Additional electives may be taken in either Political Science or a cognate area. 6 hours
5. Thesis:
   a. Thesis option—Complete a thesis (POS 6971) for 6 hours credit on a topic acceptable to the directing professor and committee.
   b. Non-thesis option—Complete three (3) additional hours in Political Science and six (6) additional hours in either Political Science or a cognate area. 6/9 hours
6. Examinations: Satisfactory performance on a comprehensive examination designed to measure knowledge and ability developed during the student's program of study. The examination will usually be administered after the satisfactory completion of 24 hours in the thesis option or 27 hours in the non-thesis option.

Total Semester Hours Required:
- Thesis Option 30 hours
- Non-thesis Option 33 hours

MASTER’S PROGRAMS IN PSYCHOLOGY
Psychology Programs Coordinator: B. Blau, CB 314, Phone 275-2216
The Psychology Department offers programs leading to the Master's Degrees in Clinical Psychology and Industrial Psychology. The programs require the equivalent of two years of full-time attendance to complete and are designed to prepare individuals for positions at the Master's level, working as psychologists in industrial settings and community agencies. Emphasis in the programs is on preparation for an applied position at the completion of each program.

MASTER OF SCIENCE: CLINICAL PSYCHOLOGY
The Clinical Psychology Graduate Program at UCF was initiated for the primary pur-
pose of providing training and preparation for individuals interested in rendering professional psychological service to the community. Service can be conducted in settings such as community mental health or guidance centers, out-patient psychiatric clinics, public or veteran's psychiatric hospitals, half-way houses, drug treatment centers, college or university counseling facilities, public correctional facilities and allied psychological service agencies.

While the delivery of psychological services comprises the program's primary thrust, this training is accomplished with a rigorous academic foundation in basic psychology including research methods. The program consists of three key areas of professional preparation: (1) Psychological Assessment-Evaluation Skills, (2) Intervention Counseling/Psychotherapy Skills, (3) Supervised Internship—Field Experience.

Competency Requirements: The student must demonstrate competency in the foundations areas of Abnormal, Developmental, Learning, Personality, Physiological and Tests and Measurements by one or more of the following methods:

A. Undergraduate coursework in one or more of the above areas with an earned grade of A or B, no longer than 5 years previous to admission to the program (or taken concurrently with the graduate program).
B. Successful performance on the Diagnostic Examinations administered by the Department at the beginning of each semester for the foundations areas stated above.
C. An Advanced Psychology GRE (code 81) score of 600 or greater, achieved no longer than 5 years previous to admission to the program.

MASTER OF SCIENCE: INDUSTRIAL PSYCHOLOGY

The basic goal of the Industrial Psychology Graduate Program is to train individuals to apply psychological principles and skills effectively to industrial and related settings. The program is designed to lead to a terminal Master's degree whereby graduates from this program will be able to work effectively in a wide range of applied settings including industry, government, and the educational fields.

Competency Requirements: The student must demonstrate competency in the foundations areas of Developmental, Learning, Motivation, Personality and Social by one or more of the following methods:

A. Undergraduate coursework in one or more of the above areas with an earned grade of A or B, no longer than 5 years previous to admission to the program (or taken concurrently with the graduate program).
B. Successful performance on the Diagnostic Examinations administered by the Department at the beginning of each semester for the foundations areas stated above.

Admission Requirements: Both Programs

1. University Admission Requirements
   (See pages 41 and 60)
2. Program Admission Requirements: BA or BS from an accredited institution.
   a. To be considered for admission, applicants must submit: an official report of the quantitative-verbal GRE score, dating from no longer than 5 years previous to application for admission;
   b. Three standard forms letters of recommendation, not more than one from a non-academic source;
   c. A review of all completed folders March 1 and May 1 for the following September admission; acceptance is competitive for approximately 20 Clinical and 15 Industrial positions. (See Departmental brochure for additional information.)

Degree Requirements: Clinical

1. University Graduate Policies and Procedures
   See the current UCF Graduate Procedures Manual, available in the Program Coordinator's office.
2. College or Department Requirements: BA in psychology or BS from an accredited institution.
3. Required Courses:
   Approximately 42 semester hours of work including:
   a. 27 hours academic class work:
   b. 6 hours labs and practica
c. 6 hours internship (see Departmental brochure for details)

4. Restricted Electives:
   None

5. Thesis and Research Report: A formal proposal and an oral defense of thesis or research report is required.

6. Examinations:
   a. Diagnostic Examination must be successfully completed before beginning second academic year of the program.
   b. The qualifying Examination given after the completion of all coursework. It must be successfully completed as a prerequisite for the internship.

Total Semester Hours Required 42

Degree Requirements: Industrial
1. University Graduate Policies and Procedures
   See the current UCF Graduate Procedures Manual, available in the Office of Graduate Studies.

2. College or Department Requirements: BA or BS from an accredited institution.

3. Required Courses:
   Approximately 40 semester hours of work including:
   a. 26 hours of academic class work:
   b. 6 hours of practicum and labs
   c. At least 8 hours of thesis

4. Restricted Electives:
   None

5. Thesis: A formal proposal and oral defense of thesis is required.

6. Examinations:
   a. Diagnostic Examination must be successfully completed before beginning the second academic year of the program.
   b. Qualifying Examinations at the end of the first and second year of the program or equivalent.

Total Semester Hours Required 40

MASTER OF PUBLIC POLICY
Program Coordinator: N. G. Holten, CB 336, Phone 275-2603

The Department of Public Service Administration offers graduate work leading to the Master of Public Policy degree. This program offers a flexible course of study which prepares students for positions as policy administrators in various modes of public service. The interdisciplinary nature of the programs provide the opportunity to acquire knowledge, master techniques, and develop insights essential for the design, administration, and evaluation of policy program at all levels of government.

Admission Requirements
1. University Admissions Requirements
   (See pages 41 and 60)

2. Program Admission Requirements
   a. Submission of a quantitative-verbal GRE score dating from no longer than 5 years previous to application for admission.
   b. Submission of three letters of recommendation from individuals capable of assessing the applicant’s ability to undertake graduate work successfully.

Degree Requirements
1. University Graduate Policies and Procedures
   See the current UCF Graduate Procedures Manual, available in the Program Coordinator’s office.

2. College or Department Requirements: Undergraduate study in Public Administration desirable. However, individuals with strong backgrounds in related disciplines could be accommodated. Students must have some basic course work in Statistics, Com-
computer Science, Economics, and American National Government. Additional course work may be required to remove deficiencies. No more than 4 semester hours of "C" may be counted toward fulfilling degree requirements. Exceeding 4 semester hours of "C" and/or unresolved "I" grades in a specific program of study constitutes grounds for dismissal from graduate status.

3. Required Courses: The following courses are required.

<table>
<thead>
<tr>
<th>Context of Public Policy Administration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD 6037 Public Organizations 4 hours</td>
</tr>
<tr>
<td>PAD 6307 Policy Implementation 4 hours</td>
</tr>
<tr>
<td>Analytical Tools:</td>
</tr>
<tr>
<td>PAD 6701 Analytic Techniques for Public Administration 4 hours</td>
</tr>
<tr>
<td>POS 6734 Research Methods 3 hours</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>SOC 6501 Social Research 3 hours</td>
</tr>
<tr>
<td>Public Management Skills:</td>
</tr>
<tr>
<td>PAD 6417 Human Resource Management 4 hours</td>
</tr>
<tr>
<td>PAD 6227 Public Budgeting 4 hours</td>
</tr>
<tr>
<td>Specialized Skill Area:</td>
</tr>
<tr>
<td>A minimum of three (3) courses which may be drawn from other departments which concentrate on a specific specialized skill area germane to the practice of public policy administration. The program of study must be approved by the department. (note: students selecting a policy analysis cognate from Political Science must obtain program approval from that department.)</td>
</tr>
</tbody>
</table>

5. Research Report: PAD 6918 Research Report 4 hours

6. Examinations: None

Total Semester Hours Required 36-39

MASTER OF ARTS: APPLIED SOCIOLOGY

Program Coordinator: J. Washington, LR 115D, Phone 275-2227

The purpose of the Applied Sociology graduate program is to train individuals to apply sociological principles and research skills in a variety or organizational settings. The program is designed to lead to a terminal Master's degree for those individuals seeking employment in non-academic settings. The program of study requires a minimum of 39 semester hours of course work and may be completed within 5 semesters.

Admission Requirements

1. University Admission Requirements
   (See pages 41 and 60)

2. Program Admission Requirements
   To be considered for admission, applicants must submit:
   a. a quantitative-verbal GRE score dating from no longer than seven years previous to application for admission
   b. complete transcripts of past university/college work
   c. three letters of reference, including at least one from an academic source familiar with the applicant's abilities.

Degree Requirements

1. University Graduate Policies and Procedures
   See the current UCF Graduate Procedures Manual, available in the Program Coordinator's office.

2. College or Department Requirements: Before a student can enroll in graduate courses in the program, the student must have a Bachelor's degree. The student must have successfully completed undergraduate courses in sociological theory, social research methods, statistics or their equivalents. Applicants records will be reviewed on an individual basis for academic deficiencies. Supplemental course work may be recommended.
3. Required Courses:
- SOC 6486 Principles of Applied Sociology 2 hours
- SOC 6825 Group Dynamics 2 hours
- SOC 6501 Social Research 3 hours
- SOC 6510 Research Analysis 3 hours
- SOC 6481 Social Systems Analysis and Evaluation 2 hours

A minimum of two Special Topics seminars covering substantive areas of sociology. Topics will vary according to student interest. Each seminar will be 2 hours credit 4 hours

A practicum of actual field experience 9 hours

4. Restricted Electives: A minimum of two of the following courses:
- SOC 6487 Program Design and Development 2 hours
- SOC 6515 Advanced Social Research 2 hours
- SOC 6565 Grant Writing 2 hours
- SOC 6872 Human Relations in the Applied Setting 2 hours
- SOC 6302 Community Development and Planned Change 2 hours
- SOC 6426 Complex Organizations 2 hours

The student may select 4 hours of non-restricted course work in consultation with the student's advisor.


6. Examinations: A comprehensive written and oral examination over required courses is required.

Total Semester Hours Required 39
COLLEGE OF BUSINESS ADMINISTRATION

UNDERGRADUATE PROGRAMS
Accountancy (BSBA)
Economics (BSBA)
Finance (BSBA)
General Business Administration (BSBA)
Management (BSBA)
Marketing (BSBA)

GRADUATE PROGRAMS
Accountancy (MS)
Applied Economics (MA)
Business Administration (MBA)

COLLEGE OF BUSINESS ADMINISTRATION

Dean: C. Eubanks, CB 210, Phone 275-2181
Associate Dean: L. Jarvis, CB 202, Phone 275-2186
Assistant Dean: W. Kilbride, CB 216, Phone 2136

The goal of the College of Business Administration is to assist in the maximum development of individual potential for accomplishment as a person and as a responsible member of society by preparing students for entry into professional positions in business and government. The various programs of study offered by the College are designed to assist the student in obtaining a sound academic preparation for the career of his choice and becoming a valuable member of society. All undergraduate programs are accredited by the American Assembly of Collegiate Schools of Business (AACSB).

The degree Bachelor of Science in Business Administration with the following majors is offered by the College of Business Administration:
Accountancy  General Business Administration
Economics  Management
Finance  Marketing

COMMON BODY OF KNOWLEDGE
The following common course work required of all majors, provides a foundation in major areas of business administration.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 2001</td>
<td>Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACC 2021</td>
<td>Principles of Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>ACC 3003</td>
<td>6</td>
</tr>
<tr>
<td>BUL 3111</td>
<td>Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Principles of Micro Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Principles of Macro Economics</td>
<td>3</td>
</tr>
<tr>
<td>MAC 1104</td>
<td>College Algebra or MAC 3233 Calculus</td>
<td>3</td>
</tr>
<tr>
<td>STA 3023</td>
<td>Fundamentals of Probabilities and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>CAP 3001</td>
<td>Comp. Fund. for Business App.</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Hours</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>ENC 3210</td>
<td>Professional Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>FIN 3403</td>
<td>Finance</td>
<td>3</td>
</tr>
<tr>
<td>MAN 3010</td>
<td>Management of Organizations</td>
<td>3</td>
</tr>
<tr>
<td>MAR 3023</td>
<td>Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MAN 3504</td>
<td>Production/Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>MAN 4720</td>
<td>Business Policies</td>
<td>3</td>
</tr>
<tr>
<td>GEB 3351</td>
<td>Business in the International Environment</td>
<td>3</td>
</tr>
</tbody>
</table>

Students in the College of Business Administration cannot receive credit for the following courses: MAN 3705, GEB 3004, ECO 2000, EGN 3842, and FIN 3100.

**GRADE POINT AVERAGE REQUIREMENTS**

For graduation the student must have maintained a minimum 2.0 GPA in course work taken in the College of Business Administration and a minimum 2.0 GPA in the course work required in the major.

**STUDENT LOAD—MAXIMUM**

A student who is enrolled in 15 semester hours of course work is considered to be carrying a normal academic load. Students desiring to take 20 or more semester hours of course work must obtain permission from the department chairperson of their major area.

**COMMUNITY/JUNIOR COLLEGE TRANSFERS**

Community/Junior College students who plan to transfer to the College of Business Administration at the University of Central Florida are advised to:

1. Complete the entire university-parallel program at the Community-Junior College (the Associate of Arts Degree) including:
   a. the general education requirements prescribed by the Community/Junior College.
   b. the one-year accounting and economics sequences (sophomore years).
   c. a course in College Algebra
   d. a course in Statistics
2. Professional courses should not be taken at a community/junior college in the areas of Management, Marketing, Real Estate, or Finance. These professional areas are third and fourth year course areas in the College of Business Administration and cannot be satisfied with Community/Junior College courses.

**MINOR (not open to Business Majors)**

The College of Business Administration offers a minor consisting of 24 semester hours.

Required courses: ACC 3003; ECO 2023, 2013; FIN 3403; MAN 3010; MAR 3023; one 3000/4000 level business course elective. A GPA of 2.0 is required for these courses. FIN 3100, GEB 3004, and MAN 3705 may not be used as the business course elective.

**DEPARTMENT OF ACCOUNTANCY**

Chairman: C. Avery, CB 403, Phone 275-2463
Faculty: Brandon, Campbell, S. Cossaboom, Grierson, Hunt, K. Johnson, W. Johnson, Phillips, Powell, Salter, Savage, Scarlett, Veit, Wilson

**OBJECTIVES OF ACCOUNTANCY PROGRAMS**

The objective of the baccalaureate program with a concentration in accountancy is to provide basic conceptual accounting and business knowledge as a foundation for accounting career development.

Special qualifications for satisfying this program's requirements are:

a. A minimum grade of "C" must be earned in each accounting course completed. Principles of Accounting I and II are included under this rule.

b. A transfer student to this program must take a minimum of twelve (12) semester hours in accounting at the University of Central Florida as approved by the department chairman.
BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: ACCOUNTANCY

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. General Education Program
   (See page 41)
3. Required Courses
   a. Business College Common Body of Knowledge
   b. ACC 3101 Financial Accounting I 3 hours
      ACC 3121 Financial Accounting II 3 hours
      ACC 3401 Cost Accounting 3 hours
      ACC 3661 Financial Accounting for Governmental and Nonprofit Organizations 3 hours
      ACC 4701 Systems I 3 hours
      ACC 4501 Federal Income Tax I 3 hours
      ACC 4601 Auditing I 3 hours
4. Restricted Electives:
   None.
5. Electives

Total Semester Hours Required 120

DEPARTMENT OF ECONOMICS
Acting Chairman: E. Moses, CB 436, Phone 275-2646
Faculty: Fritz, Hicks, D. Hosni, Joseph, Kilbride, Klages, McNiel, Raffa, White, Winchester, Xander.

The discipline of economics is most frequently described as the study of how man uses limited resources to satisfy his wants. Within this framework, the economist is concerned with (1) the functioning of the economy as a whole and (2) the functioning of individual units within the economy, particularly the business firm and the consumer.

Courses in economics are designed to provide a sound grasp of tools of analysis and measurement, as well as the ability to apply systematic analysis to business problems.

Students interested in a B.A. in Economics should refer to the Economics Major in the College of Arts and Sciences.

MINOR (in Economics for Non-Business Administration majors)
Required Courses: ECO 3101, 3203, 3411. These requirements are in addition to the prerequisites ECO 2013 and 2023.
Elective Courses: Three courses from the following: ECO 3702, 4224, 4303, 4412, 4504; ECP 3203, 3424, 3433, 4403, 4615, 4703; ECS 4003, 4013.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: ECONOMICS

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. General Education Program
   (See page 41)
3. Required Courses
   a. Business College Common Body of Knowledge
   b. ECO 3101 Intermediate Price Theory 3 hours
      ECO 3203 Aggregate Economic Conditions Analysis 3 hours
4. Restricted Electives
   All economics majors will be required to take five (5) electives from the following for a total of twenty-one (21) hours beyond the Common Body of Knowledge.
   ECO 3702 International Economics 3 hours
   ECO 4224 Money: Issues and Analysis 3 hours
   ECO 4303 History of Economic Thought 3 hours
   ECO 4412 Economic Statistics and Econometrics 3 hours
ECO 4504 Economics of the Public Sector 3 hours
ECP 3203 Contemporary Labor Economics 3 hours
ECP 3424 The Economics of Regulated Industries 3 hours
ECP 3433 Transportation Economics 3 hours
ECP 4403 Business, Government & Industrial Organization 3 hours
ECP 4815 Economics of Urban and Regional Problems 3 hours
ECP 4703 Managerial Economics 3 hours
ECS 4003 Comparative Economic Systems 3 hours
ECS 4013 Economic Development 3 hours

5. Electives

Total Semester Hours Required 120
DEPARTMENT OF FINANCE
Chairman: E. Moses, CB 436, Phone 275-2525
Faculty: Budina, Chambers, Cheney, R. Cossaboom, Eldred, Fowler, Hitt, Millican, Reiff, Veit

The program in finance is designed to provide the student with a broad knowledge in the areas of business finance, investments, financial institutions, insurance, and real estate. The program provides the student with the theoretical background and the tools of analysis required for making effective judgments in finance.

The study of finance prepares the student for careers in business financial management. In addition to all forms of nonfinancial institutions, commercial banks, savings and loan associations, insurance companies, and investment firms represent some of the financial institutions seeking the student with a major in finance.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: FINANCE

Degree Requirements
1. University graduation requirements
(See pages 41-43)
2. General Education Program
(See page 41)
3. Required Courses
   a. Business College Common Body of Knowledge
   b. FIN 3502 Investments 3 hours
      FIN 3453 Financial Models 3 hours
      FIN 3233 Money and Banking 3 hours
4. Restricted Electives
   (Select 4 courses)
   FIN 3303 Financial Institutions 3 hours
   FIN 3324 Commercial Bank Administration 3 hours
   FIN 4430 Asset Selection Management 3 hours
   FIN 4431 Financial Structure Management 3 hours
   FIN 4520 Security Analysis and Portfolio Management 3 hours
   REE 3040 Fundamentals of Real Estate 3 hours
   REE 4100 Real Estate Investment Analysis 3 hours
   RMI 3015 Principles of Risk and Insurance 3 hours
5. Electives
   Total Semester Hours Required 120

GENERAL BUSINESS ADMINISTRATION

This option allows students to develop a general program of study which will satisfy career objectives not provided for by the specialized areas of concentration. To pursue this option, students must make application through the office of the Assistant Dean of the College of Business Administration. An academic advisor will be assigned to assist each student in developing a meaningful program of study.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: GENERAL BUSINESS ADMINISTRATION

Degree Requirements
1. University graduation requirements
(See pages 41-43)
2. General Education Program
(See page 41)
3. Required Courses
   a. Business College Common Body of Knowledge
   b. One (1) additional course beyond the Common Body of Knowledge in Finance and Marketing (one course from each discipline).
4. Restricted Electives
A minimum of six (6) additional courses from at least three (3) different departments (Accounting, Economics, Finance, Management, Marketing) in the College of Business Administration.

5. Electives

<table>
<thead>
<tr>
<th>DEPARTMENT OF MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chairman:</strong> R. Reidenbach, CB 343, Phone 275-2376</td>
</tr>
<tr>
<td><strong>Faculty:</strong> Berry, Bogumil, Burnette, Callarman, Comish, Eubanks, Gallagher, Jones, Martin, McCartney, A. Schou, C. Schou, Wilson</td>
</tr>
</tbody>
</table>

The student of management includes an investigation into the processes and techniques of leadership, planning, staffing and controlling of both small and complex organizations.

Course offerings are designed to show how technological factors, the framework for decision making, and the human contributions have impact on productivity, satisfaction of job-related needs and effectiveness of actual organization.

A student majoring in management may find a wide variety of career opportunities in business, industry, or government.

**BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: MANAGEMENT**

**Degree Requirements**

1. University graduation requirements
   (See pages 41-43)

2. General Education Program
   (See page 41)

3. Required Courses
   a. Business
   b. MAN 3301 Personnel Management 3 hours
   MAN 4201 Organization Theory 3 hours
   MAN 4120 Business and Society 3 hours
   MAN 4724 Information Systems Analysis 3 hours

4. Restricted Electives (Select a minimum of 3 courses)
   MAN 4150 Human Relations in Management 3 hours
   MAN 4654 Management Science 3 hours
   MAN 4310 Personnel Management Issues 3 hours
   MAN 4401 Labor Relations Management 3 hours
   MAN 4480 Service Organization Management 3 hours
   MAN 4420 Procurement Management 3 hours
   MAN 4724 Implementing Information Systems 3 hours

5. Electives

| Total Semester Hours Required | 120 |

**DEPARTMENT OF MARKETING**

**Chairman:** G. Paul, CB 420, Phone 275-2442

**Faculty:** Boone, Davis, Fuller, Gillett, Jarvis, Mayo, McAleer, Rubin, Teeple

Marketing encompasses the total system of interacting business activities designed to plan, price, promote, and distribute want-satisfying products and services to present and potential customers.

The marketing curriculum concentrates on developing the student's ability to understand, interpret, and measure market demand and to understand the blending of product pricing strategies, promotional strategies, and physical distribution so as to optimize the efficiency of the total system and the profits of the individual firm. Students majoring in marketing find a variety of career opportunities.
BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: MARKETING

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. General Education Program
   (See page 41)
3. Required Courses
   a. Business
      - MAR 3503  Consumer Market Behavior  3 hours
      - MAR 3613  Marketing Research  3 hours
      - MAR 4722  Marketing Management  3 hours
      - MAR 4713  Marketing Policies and Strategies  3 hours

4. Restricted Electives
   Minimum of 3 courses
   - MAR 3303  Advertising Management  3 hours
   - MAR 3403  Sales Management  3 hours
   - MAR 4123  Product Management  3 hours
   - MAR 4153  Retailing Management  3 hours
   - MAR 4203  Channels of Distribution Management  3 hours
   - MAR 4703  Current Marketing Problems  3 hours
   - MAR 4263  International Business Operations  3 hours

5. Electives
   - Total Semester Hours Required  120
The College of Business Administration offers curricula leading to the Master of Business Administration degree, the Master of Science degree with a specialization in accountancy and the Master of Arts degree in Applied Economics. All graduate business programs are accredited by the American Assembly of Collegiate Schools of Business (AACSB).

ADMISSION REQUIREMENTS

1. University Admission Requirements and Procedures
   See the Graduate Studies section of this catalog. Also, the UCF Graduate Procedures Manual contains more comprehensive information on graduate admissions, policies, procedures, and degree requirements. Copies are available in the College of Business Administration Office of Graduate Programs.

2. College Admission Requirements
   a. Admission is open to the student with a baccalaureate degree from a regionally accredited college or university who meets general university admission requirements and, in all cases, presents an appropriate undergraduate grade point average and an acceptable score on the Graduate Management Admission Test for the M.B.A. Degree and the M.S. in Accountancy Degree. An acceptable score on the Graduate Record Examination is required instead of the GMAT for admission to the Master of Arts degree program in Applied Economics. Foreign students whose native language is not English are required to submit a score of at least 575 on the Test of English as a Foreign Language (TOEFL) for further admission consideration.

   No previous training in business or specific course work is required as a prerequisite for graduate status in the College of Business Administration. Thus, the graduate degree programs are open to graduates in education, engineering, arts, sciences, and other fields, as well as business.

   An applicant will not be considered for regular graduate status until a score on the GMAT or GRE (or TOEFL, if appropriate), a transcript showing proof of attainment of the Bachelor's degree, and the transcripts of all other colleges attended have been submitted to the Director of Admissions of the University.

   The applicant must arrange for transcripts to be submitted by the proper officials of the institutions previously attended. Transcripts in the possession of an applicant cannot be accepted. It is the applicant's responsibility to make arrangements to take the GMAT or GRE prior to the expected date of enrollment as a graduate student and to direct the Educational Testing Service to mail the test score to the Director of Admissions, University of Central Florida.

   b. Enrollment in Business Administration graduate courses (5000/6000 level) is limited to students who have been accepted and classified with regular graduate status or admission categories in the MBA, MS in Accountancy or MA in Applied Economics programs. These courses are available to students with graduate status in other units of the university if they have completed appropriate prerequisite course work.

MASTER OF BUSINESS ADMINISTRATION

Program Coordinator: L. P. Jarvis, CB 202, Phone 275-2187

The program leading to the Master of Business Administration at the Univer-
The University of Central Florida is intended to develop the student's analytical, problem-solving, and decision-making capabilities to meet the challenges of leadership in administrative positions at the present and in the changing world of the future.

This program may be completed on either a part-time or full-time basis.

The MBA has been recognized for many years as a professional degree that prepares an individual for the early assumption of management challenges and responsibilities in business. More recently, business management concepts and tools have been implemented in organizations as diverse as public service agencies, the health professions, government agencies, and educational institutions. Accordingly, individuals who possess the Master of Business Administration degree are widely sought for administration positions in such organizations as well as in business.

The Master of Business Administration Program provides the opportunity to study broad administrative concepts and relationships along with some in-depth study in one or more of the following: accountancy, economics, finance, management, or marketing. Persons holding university baccalaureate degrees in fields other than business administration as well as those with baccalaureate degrees in business will find the MBA degree highly contributory to achieving their career goals.

All degree programs in the College of Business Administration at the undergraduate and graduate levels are fully accredited by the American Assembly of Collegiate Schools of Business (AACSB).

Academic Standards: Master of Business Administration students/candidates must maintain an overall 3.0 GPA in both the Foundation (Part I) and Advanced course work (Part II). In the event this is not maintained, a graduate student/candidate shall be placed in an academic provisional status. If an overall GPA of 3.0 is then not obtained by completion of the subsequent 9 semester hours of course work the graduate student/candidate will be disqualified from the program. Further, if a candidate accumulates "C" or less and/or unresolved "I" grades in more than three (3) Foundation or equivalent courses, this will result in disqualification from the program. If a graduate student accumulates more than six (6) semester hours of "C" or less and/or unresolved "I" grades in course work on the Approved Program of Study, then this will result in disqualification from the graduate program.

Consistent with university academic policies for graduate students, the following additional conditions prevail: A grade of "D" or "F" in any course on the Approved Program of Study requires the retaking of that course. All grades received become a permanent part of the computation of the grade point average and will appear on the student's permanent academic record.

Degree Requirements
   See the Graduate Studies section of this catalog. Also, the UCF Graduate Procedures Manual contains more comprehensive information on graduate admissions, policies, procedures, and degree requirements. Copies are available in the College of Business Administration Office of Graduate Programs.

2. College Requirements
   Foundation Course Work* (24 Semester Hours) Part I

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 5004</td>
<td>Financial Accounting Concepts</td>
<td>3</td>
</tr>
<tr>
<td>BUL 5125</td>
<td>Legal and Social Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>ECO 5055</td>
<td>Economic Concepts</td>
<td>3</td>
</tr>
<tr>
<td>ECO 5413</td>
<td>Statistics for Business and Economics</td>
<td>3</td>
</tr>
<tr>
<td>FIN 5405</td>
<td>Financial Concepts</td>
<td>3</td>
</tr>
<tr>
<td>MAN 5051</td>
<td>Management Concepts</td>
<td>2</td>
</tr>
<tr>
<td>MAN 5501</td>
<td>Introduction to Productions/Operations Management</td>
<td>2</td>
</tr>
<tr>
<td>MAN 5830</td>
<td>Introduction to Management Information Systems</td>
<td>2</td>
</tr>
<tr>
<td>MAR 5055</td>
<td>Marketing Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>
* The above requirements may be entirely or partially satisfied through prior equivalent course work at the undergraduate level. Normally, such course work must have been satisfactorily completed within the past five years, preferably at an AACSB accredited college or university. Some of the prerequisite course work may be satisfied through credit by examination if approved by the College.

3. Required Courses: (24 Semester Hours) Part II

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 6734</td>
<td>Accounting Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MAR 6716</td>
<td>Marketing Policy</td>
<td>3</td>
</tr>
<tr>
<td>ECO 6111</td>
<td>Economic Analysis of the Firm</td>
<td>3</td>
</tr>
<tr>
<td>FIN 6404</td>
<td>Financial Analysis and Management</td>
<td>3</td>
</tr>
<tr>
<td>ECO 6415</td>
<td>Statistical Methods for Business Decisions</td>
<td>3</td>
</tr>
<tr>
<td>MAN 6814</td>
<td>Quantitative Methods for Business Decisions</td>
<td>3</td>
</tr>
<tr>
<td>MAN 6206</td>
<td>Organizational Behavior and Development</td>
<td>3</td>
</tr>
<tr>
<td>MAN 6721</td>
<td>Business Policy and Responsibility</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Restricted Electives: Minimum of 9 credit hours in approved business administration graduate courses at the 6000 level.

5. Thesis: The MBA Program does not require a thesis. If a student has a unique area of interest that cannot be satisfied through regular elective course work, a special independent study/research project for 3 semester hours of credit may be developed if supported by a graduate teaching faculty member and approved by the appropriate department chairman and the Dean of the College. This would normally be undertaken during the last term of residency in the Program.

6. Examinations: Satisfactory completion of a written comprehensive examination is required. This examination will be given toward the end of classes each semester. A graduate student has the option of taking part of the comprehensive examination during the next to last semester of his study if all course work in an area to be examined has been completed with a satisfactory final course grade recorded for each respective course therein. The remaining area(s) on the examination will be taken during the last semester in which course work is taken and all degree requirements are expected to be completed. The comprehensive examination consists of four equal parts covering the general subject areas of economics, finance, management, and marketing. The student must pass each of the parts. If any part(s) of the examination is (are) failed, the student is eligible to sit for the part(s) to be retaken during the immediate following term. Any other reexamination of any part will only be allowed if approved by the Graduate Programs Committee of the College.

Total Semester Hours Required 33-57

MASTER OF SCIENCE: ACCOUNTANCY

Student Advisor: C. Avery, CB 403, Phone 275-2463

OBJECTIVES OF ACCOUNTANCY PROGRAMS

The objective of the Masters of Accountancy program is to provide candidates with greater breadth and depth in accounting education than is possible in baccalaureate programs in preparation for careers as professional accountants in financial institutions, governments, industry, nonprofit organizations, and public practice. (This program satisfies the requirements of the State Board of Accountancy rule 21-A-27.02.)

Academic Standards: Master of Science in Accountancy student/candidates must maintain an overall 3.0 GPA in both the Foundation and Advanced course work. In the event this is not maintained, a graduate student/candidate shall be placed in an academic provisional status. If an overall GPA of 3.0 is then not obtained by the completion of the subsequent 9 credit hours of course work, the graduate student/candidate will be disqualified from the program. Further, if a candidate accumulates "C" or less and/or unresolved "I" grades in more than three (3) Foundation or equivalent courses in the Common Body of Knowledge, this will result in disqualification from the program. A minimum grade of "C" must be earned in all Accountancy Foundation courses. No graduate level course with a grade of "D" is acceptable in the Program of Study. If a graduate student accumulates more than six (6) hours of "C" or less and/or unresolved "I" grades
on course work on the approved Program of Study, then this will result in disqualification from the graduate program. All grades received will become a permanent part of the computation of the grade point average and all grades received will appear on the student's permanent academic record.

MASTER OF SCIENCE IN ACCOUNTANCY

Degree Requirements

1. University Graduate Policies and Procedures

   See the Graduate Studies section of this catalog. Also, the UCF Graduate Procedures Manual contains more comprehensive information on graduate admissions, policies, procedures, and degree requirements. Copies are available in the College of Business Administration Office of Graduate Programs.

2. College and Department Requirements

   a. All of the MBA Foundation Courses (24 semester hours)
   b. Accountancy Foundation Courses (36 semester hours):

   - BUL 3112 Business Law I 3 hours
   - BUL 3121 Business Law II 3 hours
   - ACC 3101 Financial Accounting I 3 hours
   - ACC 3121 Financial Accounting II 3 hours
   - ACC 3141 Financial Accounting III 3 hours
   - ACC 3401 Cost Accounting I 3 hours
   - ACC 3861 Financial Accounting for Governmental and Nonprofit Organizations 3 hours
   - ACC 4201 Financial Accounting IV 3 hours
   - ACC 5421 Cost Accounting II 3 hours
   - ACC 4501 Federal Income Tax I 3 hours
   - ACC 4601 Auditing I 3 hours
   - ACC 4703 Accounting Systems I 3 hours

   The above requirements may be entirely or partially satisfied through prior equivalent undergraduate course work. Normally, such course work must have been satisfactorily completed within the past five years, preferably at an AACSB accredited college or university. Some of the prerequisite course work may be satisfied through credit by examination if approved by the College.

   Following satisfactory completion of the Foundation courses listed above, the Master of Science with specialization in Accountancy is awarded upon satisfactory completion of a program of 30 semester hours. Students, with assistance and approval of an advisor may select an area of concentration in Not for Profit, Industry, Public Accounting, Tax, or General Accountancy. Required courses and restrictive electives are listed below.

3. Required Courses (15 semester hours)

   - ACC 5531 Federal Income Tax II 3 hours
   - ACC 5621 Auditing II 3 hours
   - ACC 6735 Systems II 3 hours
   - ACC 6805 Accounting Theory 3 hours
   - ACC 6866 Professional Issues 3 hours

4. Restricted Electives (15 semester hours) To be selected with advisor approval.

   a. Two courses from the following:

   - ACC 5231 Financial Accounting V 3 hours
   - ACC 5865 Managerial Accounting for Governmental and Nonprofit Organizations 3 hours
   - ACC 6411 Cost Accounting III 3 hours
   - ACC 6511 Federal Income Tax III 3 hours
   - ACC 6611 Auditing III 3 hours
   - ACC 6745 Accounting Control Systems 3 hours
   - ACC 6810 Professional Accounting Practice 3 hours
   - ACC 6868 Expanded Scope Auditing in Governmental and Nonprofit Organizations 3 hours

   b. Two courses from the MBA Required Course Work group 6 hours
c. One course from either the MBA Required Course Work group or from Accountancy  

5. Thesis
The MS Program does not require a thesis. However, students wishing to do research may (with the approval of the department) choose among the following options: (1) independent study; (2) a major research project and written report for 3 hours credit (ACC 6918); or (3) a thesis for a maximum of 3 elective graduate credits.

6. Examination
Satisfactory completion of an End of Program comprehensive examination is required.

Total Semester Hours Required 30-90

MASTER OF ARTS: APPLIED ECONOMICS

Student Advisor: D. W. McNiel, CB 444, Phone 275-2465

The program of study for the Master of Arts Degree in Applied Economics is a part-time program designed to provide specialization in economics for those persons desiring careers as economists in the academic, governmental, business and financial communities.

Degree Requirements
1. University Graduate Policies and Procedures
See the Graduate Studies section of this catalog. Also, the UCF Graduate Procedures Manual contains more comprehensive information on graduate admissions, policies, procedures, and degree requirements. Copies are available in the College of Business Administration Office of Graduate Programs.

2. Department Requirements
The following prerequisite (or equivalents) must normally be completed before enrolling in 6000 level graduate economics courses.

ECO 5055 Economic Concepts 3 hours
ECO 5413 Statistics for Business & Economics 3 hours

When classified as a regular graduate student, a student may register simultaneously for both prerequisites and 6000 level courses only with the permission of the instructor. Undergraduate equivalent prerequisite course work must have been satisfactorily completed within the past five years at an accredited college or university if used to meet the prerequisites requirement. Prerequisites may be satisfied through completion of the equivalent foundation course or through credit by examination.

3. Required Courses (12 semester hours)
ECO 6111 Economic Analysis of the Firm 3 hours
ECO 6204 Aggregate Economic Conditions Analysis 3 hours
ECO 6415 Statistical Methods for Business Decisions 3 hours
ECP 6704 Managerial Economics 3 hours

4. Restricted Electives
At least twelve (12) hours of approved elective course work must be completed. At the discretion of the department, up to six (6) of these approved elective hours may be completed in non-economics disciplines such as accounting, finance, management, marketing, mathematics, statistics, public administration, and computer science.

5. Thesis and Internship
Either a thesis or an internship is required. A thesis may not exceed six hours of graduate credit. Students may petition to enroll in an internship as an alternative to a thesis. The internship may not exceed six hours of graduate credit. An internship will require enrollment in ECO 6946—Internship (3 hours) and ECO 6918—Directed Independent Research (3 hours).

6. Examination
Candidates must satisfactorily complete a comprehensive examination consisting of an oral defense of the thesis or of the assignments and research report associated with the internship.

Total Semester Hours Required 30-60
UNDERGRADUATE PROGRAMS

- Business Education (Comprehensive) (BA)
- Educational Media Specialist (BA)
- Elementary Education (BA)
- English Language Arts Education (BA)
- Foreign Language Education (BA)
- Mathematics Education (BA)
- Physical Education (BA)
- Science Education (BA)
- Social Science Education (BA)
- Speech Education (BA)
- Technical/Vocational Education (BA)
- Visual Arts Education (BA)

GRADUATE PROGRAMS

MASTERS PROGRAMS

- Administrative & Supervision (MA) (M.Ed)
- Business Education (Comprehensive) (MA) (M.Ed)
- Educational Media Specialist (MA) (M.Ed)
- Elementary Education (MA) (M.Ed)
- English Language Arts Education (MA) (M.Ed)
- Exceptional Child (MA) (M.Ed)
- Foreign Language Education (MA) (M.Ed)
- Guidance (MA) (M.Ed)
- Mathematics Education (MA) (M.Ed)
- Music Education (MA) (M.Ed)
- Physical Education (MA) (M.Ed)
- Reading Specialist (MA) (M.Ed)
- School Psychology (MS)
- Science Education (MA) (M.Ed)
- Social Science Education (MA) (M.Ed)
- Speech Education (MA) (M.Ed)
- Visual Arts Education (MA) (M.Ed)
- Vocational Education (MA) (M.Ed)

DOCTORAL PROGRAMS

- Administration & Supervision (Ed.D) (Ed.S.)
- Community and Junior College Instruction (Ed.D) (Ed.S.)
- Curriculum & Instruction (Ed.D) (Ed.S.)
- Elementary Education (Ed.D) (Ed.S.)
- Counseling Education (Ed.D) (Ed.S.)

COLLEGE OF EDUCATION

Dean: C. Miller, ED 328, Phone 275-2366
Associate Dean: R. Cowgill, ED 328, Phone 275-2366
Associate Dean: N. McLain, ED 115, Phone 275-2436

Students who are planning a career in teaching in the elementary or secondary schools should enroll in this College. Programs are offered leading to the Bachelor of Arts, Master of Education and Master of Arts degree in Education.
The professional program is concerned primarily with the interrelated and interdependent areas of Specialized Preparation and Professional Preparation. In general, specialized preparation in subject matter areas for secondary education majors is offered by the other colleges, while specialized elementary education content courses are offered by the College of Education.

The professional sequence, a responsibility of the College of Education, is designed for developing:
A. Insights into the processes of school curriculum and organization.
B. Understanding of how learning takes place with methods and procedures needed for successful teaching.
C. An understanding of the society in which schools function.
D. An awareness of the individual in his relationship with students and the community.
E. A realization of the challenges and responsibilities in the field of education and a basic philosophy of education.

Considerable emphasis is given to providing all education majors with an opportunity to have cooperatively planned learning experiences in a laboratory setting, specifically designed to blend realistic practical experience with theoretical knowledge. In most instances elementary and secondary schools in Central Florida serve as educational laboratories for the College of Education.

**UNDERGRADUATE CAREER TEACHER PROGRAM**

Students are encouraged to designate the College of Education as their intended major college as early as this becomes their clear intent. Junior transfer students should enter Phase I of the professional education sequence during their initial term in attendance.

As a prerequisite to formal admission to the State Approved Program of Teacher Education students must: 1) score at or above the 40th percentile of all college bound persons tested on the American College Testing Program (ACT, score 17) or the Scholastic Aptitude Test (SAT, score 835) and have this score recorded as part of their official university academic record, 2) have an overall and UCF academic average (G.P.A.) of 2.0 or above, 3) have satisfactorily completed Phase I, and 4) submit a formal junior student teaching application to the college Student Internships Office.

All UCF Teacher Education Programs provide for two semesters of student teaching—one at the junior level and one at the senior level. Such provisions are consistent with current Florida Department of Education and legislative sentiments for a year-long internship.

The Career Teacher Program consists of three distinct phases:

**PHASE I—EXPLORATION**

**EDG 4341 Teaching Strategies** 5 hours

This is required of all education students and is designed to explore the basic strategies of teaching. Various aspects of teaching and child development are analyzed to help provide a basis for a decision whether or not to pursue teaching as a career. Any university student of sophomore level or higher may enroll. This phase is prerequisite to admission to the State Approved Program of Teacher Education and/or junior student teaching.

**PHASE II—DEVELOPMENTAL**

**Junior Student Teaching** 3 hours

**EDE 3942** Junior Student Teaching—Elementary OR
**EDE 3943** Junior Student Teaching—All K-12 majors OR
**ESE 3940** Junior Student Teaching—Secondary

Laboratory experience in Phase II is jointly planned by public school personnel and university faculty and conducted in approved Student Teaching Centers. Experience is provided at different grade levels to reflect generally the breadth of the certification area sought. In this phase the prospective teacher participates in activities to develop and sharpen specific teaching skills and to expand teaching field knowledge.

**Application Deadline**—An application for Phase II (junior) student teaching must be submitted. Those having special circumstances who are interested in a possible concentrated assignment should inquire at the Student Internships Office.
PHASE III—APPLICATION
Senior Year Student Teaching 7 hours
EDE 4943 Senior Student Teaching—Elementary OR
ESE 4943 Senior Student Teaching—Secondary

In Phase III the student applies the fundamentals of teaching and academic knowledge previously attained. Under the supervision of a selected teacher, the student is responsible for developing and executing plans. A full semester is devoted to student teaching. To be admitted to Phase III, a student must have satisfied the requirements for Phase I and Phase II; have a 2.2 average in his area of academic specialization; have completed at least two-thirds of the required hours in the academic specialization; have a 2.0 UCF and overall academic average; be recommended by his department and be accepted by the Student Internships office.

Application Deadline—An application for Phase III Student Teaching must be submitted. Application deadlines will be published and followed.

CERTIFICATION FOR TEACHING
All College of Education undergraduate curricula fulfill State of Florida certification requirements for a Bachelor’s Degree Florida Teaching Certificate. There is an “inter-state” agreement with several states for College of Education graduates who desire to teach outside Florida. Persons who complete a Florida State Approved Program are certifiable upon completed application in any of the participant states.

Since July 1, 1980, all applications for a teaching certificate in Florida must pass a written competency examination administered by the Florida State Department of Education.
DEPARTMENT OF EDUCATIONAL FOUNDATIONS
Chairman: William K. Esler, ED 243, Phone: 275-2426
Faculty: Barr-Johnson, Beadle, Blume, Dzuban, Harlacher, Harrow, Heitt, Hoover, Manning, Miller, Olson, Sciortino, Sullivan, Williams, Wood

PROFESSIONAL PREPARATION
The Educational Foundations Department conducts professional preparation courses that include topics and skills required by all teachers. The twenty-three generic teaching competencies as defined by the Florida Department of Education are included. State teacher certification requirements (Professional Preparation) include the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDG 4341</td>
<td>Teaching Strategies</td>
<td>5</td>
</tr>
<tr>
<td>EDG 4376</td>
<td>Teaching in the Schools</td>
<td>5</td>
</tr>
<tr>
<td>EDF 3603</td>
<td>Teaching Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EDF 4214</td>
<td>Classroom Learning Principles</td>
<td>3</td>
</tr>
<tr>
<td>EDE 3942, 3943 or ESE 3940</td>
<td>Junior Year Student Teaching</td>
<td>3</td>
</tr>
<tr>
<td>EDE 4943 or ESE 4943</td>
<td>Senior Year Student Teaching</td>
<td>7</td>
</tr>
</tbody>
</table>

EDG 4341, Teaching Strategies, is the preferred entry course for the Exploratory portion, (Phase I) of the teacher education program. Courses to fulfill the Special Methods and Specialization certification requirements are offered by other departments within the college and university.

STUDENT INTERNSHIPS PROGRAM
Director: Harold J. Haughee, ED 214, Phone: 275-2401

The UCF program for students planning a career in teaching is considered innovative and functional because of early and continuous field experience with school students which attempts to blend theoretical consideration with the practical. Cooperative planning and articulation with school personnel assures appropriate activities in education settings. A full year of internship is an integral part of each program and consists of one junior and one senior semester along with appropriate support courses.

DEPARTMENT OF EDUCATIONAL SERVICES
Chairman: J. Powell, ED 318, Phone 275-2595
Faculty: Bollet, Cleland, Cornell, Gergley, Hernandez, Higginbotham, Hunter, Kavannah, H. P. Martin, Mealor, Midgett, M. Miller, Olson, Orwig, Percy, Renner, Rohter, Rothberg, Shadgott, Toler.

The focus of the Department of Educational Services is to provide training for specialists in school and non-school environments. Undergraduate academic major programs leading to bachelor's degrees and K-12 certification are offered in Educational Media and Physical Education. In addition, minors, certification programs and masters level (M.A., M.S. or M.Ed.) graduate programs are available in the following areas: Administration & Supervision, Educational Media, Exceptional Child Education, Counselor Education, Physical Education, and School Psychology. Cooperative doctoral programs have been established with the University of Florida (Counselor Education) and Florida Atlantic University (Administration & Supervision) which lead to a Doctorate of Education degree. At present, other specialization areas are being considered for cooperative doctoral programs.

BACHELOR OF ARTS: PHYSICAL EDUCATION
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See page 141)
3. Required Courses
   Specialization
   DAE 3301 Instructional Analysis of Dance & Rhythms 2 hours
   LEI 3443C Recreation and Intramurals 2 hours
<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>PEO 3011C</td>
<td>Instructional Analysis in Team Sports</td>
<td>4</td>
</tr>
<tr>
<td>PEO 3031C</td>
<td>Instructional Analysis of Individual Activities</td>
<td>2</td>
</tr>
<tr>
<td>PEP 3000</td>
<td>Instructional Analysis of Performer Centered Activities</td>
<td>2</td>
</tr>
<tr>
<td>PEQ 3101C</td>
<td>Instructional Analysis in Aquatics</td>
<td>2</td>
</tr>
<tr>
<td>PET 3450C</td>
<td>Teaching PE in the Secondary School</td>
<td>2</td>
</tr>
<tr>
<td>PET 3453</td>
<td>Coaching Theory &amp; Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>PET 3461C</td>
<td>Teaching PE in the Elementary School</td>
<td>2</td>
</tr>
<tr>
<td>PET 4050C</td>
<td>Motor Development and Learning</td>
<td>3</td>
</tr>
<tr>
<td>PET 4312C</td>
<td>Anatomic and Mechanical Foundations of Human Movement</td>
<td>3</td>
</tr>
<tr>
<td>PET 4370C</td>
<td>Exercise Physiology—Cardiovascular</td>
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</tr>
<tr>
<td>PET 4371C</td>
<td>Exercise Physiology—Respiratory</td>
<td>2</td>
</tr>
<tr>
<td>PET 4410</td>
<td>Organization and Administration of Typical and Atypical Physical Education Programs</td>
<td>2</td>
</tr>
</tbody>
</table>

4. Restricted Electives
None

5. Electives
Total Semester Hours Required
12 hours

120 hours
BACHELOR OF ARTS: EDUCATIONAL MEDIA SPECIALIST

1. University graduation requirements
(See pages 41-43)

2. Special college and/or department requirements
(See pages 141, 143)

3. Required Courses

   specialization
   
   LIS 3016  Introduction to Media Services  3 hours
   LIS 3412  Media for Children and Young Adults  3 hours
   LIS 4310  Production of Materials for the Media Center  3 hours
   LIS 4422  Administration and Operation of the Media Center  3 hours
   LIS 4428  Utilization of Educational Media  3 hours
   LIS 4453  School Media Services  3 hours
   LIS 4510  Development of Media Collections  3 hours
   LIS 4540  Interactive Techniques in Media Services  3 hours
   LIS 4601  Reference Sources and Services  3 hours
   LIS 4731  Organization of Media and Information  3 hours

4. Restricted Electives

   Electives in supportive areas to be selected on advice of Educational Media Counselor.  15 hours

5. Electives

   Total Semester Hours Required  120 hours

DEPARTMENT OF INSTRUCTIONAL PROGRAMS

Chairman: R. Martin, ED 346, Phone 275-2151

Faculty: Anderson, Armstrong, Bird, Brumbaugh, Chin, Clarke, Cox, Fardig, Green, Gurney, Hall, Hynes, Joels, McGee, Merritt, E. Miller, Palmer, Park, Paugh, Poe, Siebert, Sorg, Thompson, Weidenheimer.

Elementary Education

The career Elementary Education program is planned for students interested in the education of young children, six through twelve years of age. Students who major in elementary education are qualified to teach grades one through six upon graduation and receipt of a Florida teaching certificate.

An elementary education major must have the following preparation: (1) a broad general education (environmental studies); (2) a specialized knowledge of content, techniques and materials needed to teach different elementary school subjects such as art, language arts, mathematics, music, physical education, science and social studies; and (3) professional study which includes planned laboratory activities with children in schools identified as Teacher Education Centers.

Early Childhood Education (nursery and kindergarten). In combination with preparation to teach grades one through six, requirements may be met for preparation/certification to teach Kindergarten (6 semester hour minimum).

Secondary Education

Career programs are available for prospective teachers who have an interest in working with adolescent students in a specific academic area at the middle, junior, or high school levels. Specializations are available in Biology, Chemistry, English, Foreign Language, Mathematics, Physics, Social Studies, and Speech.

Art/Music

Two programs are designed to prepare specialists to function at both the elementary and secondary levels (K-12). A major in Visual Arts Education is available for students with an interest in Art. The Bachelor's degree program in Music Education is located in the Department of Music with Instructional Programs responsible for professional requirements.

Vocational Education

The vocational education degree is for individuals in Industrial/Technical areas or selected Health Occupations who wish to teach their specialization in secondary or post-secondary schools. To be eligible for the degree, students must have worked full time in the occupation for at least two years and must demonstrate competence through an
examination for licensure in the area in which they wish to teach. A maximum of 30 semester hours of credit by examination or credit granted through licensing may count toward the degree.

A bachelor's degree comprehensive curriculum is planned for students who desire to specialize in Business Education.

Minor

The Department of Instructional Programs offers a minor of Executive Secretary consisting of 24 hours.

Required Courses: BTE 2061, 3062, 2063, 3151, 4152, 3266, 4265, and 4366.

BACHELOR OF ARTS: BUSINESS EDUCATION

Degree Requirements

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 141, 146)

3. Required Courses
   Core Requirements
   ACC 2001 Principles of Accounting I 3 hours
   ACC 2021 Principles of Accounting II 3 hours
   BTE 2061 Typewriting Production 2 hours
   BTE 3062 Professional Typewriting Production 3 hours
   BTE 3266 Office Technology 3 hours
   BTE 4265 Office Systems and Procedures 3 hours
   BTE 4366 Business Correspondence 3 hours
   BUL 3111 Legal Environment of Business 3 hours
   ECO 2013 Principles of Macroeconomics 3 hours
   ECO 2023 Principles of Microeconomics 3 hours
   EVT 3062 Professional Role of the Vocational Teacher 3 hours
   Special Methods
   BTE 3391 Business Instruction Analysis I 2 hours
   BTE 4393 Business Instruction Analysis III 2 hours

AREAS OF SPECIALIZATION (select one area)

(a) Comprehensive Area
   BTE 2063 Principles of Shorthand I 3 hours
   BTE 3151 Advanced Shorthand 3 hours
   BTE 4152 Shorthand Dictation and Transcription 3 hours
   BTE 4392 Business Instructional Analysis II 2 hours
   BTE 3292L Shorthand Laboratory for Instructional Development 1 hour

(b) Basic Business and Accounting Area
   ACC 3101 Financial Accounting 3 hours
   CAP 3001 Computer Fundamentals for Business 3 hours
   CAP 3002 Business Application Programming 3 hours
   GEB 3004 Management 3 hours

4. Restricted Electives (none)

5. Electives

Total Semester Hours Required 123 hours

BACHELOR OF ARTS: ELEMENTARY EDUCATION

Degree Requirements

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 141, 146)

3. Required Courses
   Specialization
   ARE 4313 Art in the Elementary School 3 hours
BACHELOR OF ARTS: ENGLISH LANGUAGE ARTS EDUCATION

Degree Requirements
1. University graduation requirements
(See pages 41-43)
2. Special college and/or department requirements
(See pages 141, 146)
3. Required Courses
   Lower Division
   ENC 1101 Composition I 3 hours
   ENC 1102 Composition II 3 hours
   LIT 3000 Literary Analysis 3 hours
   SPC 1014 Fundamentals of Oral Communication 3 hours
   Literature
   ENL 2010 English Literature I: Beowulf to 1660 3 hours
   ENL 3021 English Literature II: From 1660 to 1870 3 hours
   AML 2011 American Literature I 3 hours
   AML 3020 American Literature II 3 hours
   AML 4321 Modern American Literature OR 4 hours
   ENL 4373 Modern British Literature 3 hours
   Language and Composition
   ENC 3310 Writing Skills 3 hours
   LIN 4341 Modern English Grammar 3 hours
   LAE 4342 Teaching Language and Composition 3 hours
   Special Methods
   LAE 3305 English Instructional Analysis 3 hours
4. Restricted Electives 6 hours
   Select from the following: ENL 4330, LIN 3010, ENL 3273, LAE 5464, LIN 4100 or other Literature courses.
5. Electives
   Total Semester Hours Required 120

BACHELOR OF ARTS: FOREIGN LANGUAGE EDUCATION

Degree Requirements
1. University graduation requirements
(See pages 41-43)
2. Special college and/or department requirements
(See pages 141, 146)

3. Required Courses

**AREAS OF SPECIALIZATION** (Select one)

**French Language**
- FLE 3063 Language as Human Behavior 2 hours
- FRE 1100 Elementary Language and Civilization 3 hours
- FRE 1101 Elementary Language and Civilization 3 hours
- FRE 2200 Intermediate Language and Civilization 3 hours
- FRE 2201 Intermediate Language and Civilization 3 hours
- FRE 3240 French Conversation 3 hours
- FRE 3420 French Composition 3 hours
- FRW 3100 Survey of French Literature 3 hours
- FRW 3101 Survey of French Literature 3 hours

**Spanish Language**
- FLE 3063 Language as Human Behavior 2 hours
- SPN 1100 Elementary Language and Civilization 3 hours
- SPN 1101 Elementary Language and Civilization 3 hours
- SPN 2230 Intermediate Language and Civilization 3 hours
- SPN 2231 Intermediate Language and Civilization 3 hours
- SPN 3240 Spanish Conversation 3 hours
- SPN 3420 Spanish Composition 3 hours
- SPW 3100 Survey of Spanish Literature I 3 hours
- SPW 3101 Survey of Spanish Literature II 3 hours

**Special Methods**
- FLE 3333 Foreign Language Instructional Analysis 4 hours

4. Restricted Electives
Select upper division courses in Area of Specialization.
- LIN 2701, or 4801 Language and Meaning 3 hours
- ANT 3410 Social Anthropology 3 hours

5. Electives
See your advisor concerning courses related to “English for Speakers of other Languages” (ESOL), and Bilingual Education.

**Total Semester Hours Required** 120

**BACHELOR OF ARTS: MATHEMATICS EDUCATION**

**Degree Requirements**

1. University graduation requirements
(See pages 41-43)

2. Special college and or department requirements
(See pages 141, 146)

3. Required Courses

**Specialization**
- MAC 1104 College Algebra 3 hours
- MAC 1114 College Trigonometry 3 hours
- MAC 3311 Calculus w/Analytic Geometry I 4 hours
- MAC 3312 Calculus w/Analytic Geometry II 4 hours
- MHF 2300 Logic & Proof 3 hours
- MTG 4212 Modern Geometry 4 hours
- STA 3023 Fundamentals of Probabilities & Statistics 3 hours
- COP 2510 Programming I 3 hours
- MAE 5395 Teaching the Metric System 3 hours

**Special Methods**
- MAE 3330 Math Instructional Analysis 4 hours

4. Restricted Electives
(Select two courses in mathematics)
- 6-8 hours

5. Electives
Select in consultation with advisor.

**Total Semester Hours Required** 120
BACHELOR OF ARTS: SCIENCE EDUCATION

Degree Requirements

1. University graduation requirements
   (See pages 41-43)

2. Special college and/or department requirements
   (See pages 141, 146)

3. Required Courses

   **Biology Specialization**
   
   **CORE**
   - BSC 1010C: Basic Biology 4 hours
   - CHM 1034: General Chemistry 3 hours
   - BOT 1010C: General Botany 3 hours
   - PCB 3043: Principles of Ecology 3 hours
   - PCB 3043L: Principles of Ecology Laboratory 1 hour
   - PCB 3063: Genetics 3 hours
   - PCB 3063L: Genetics Laboratory 1 hour
   - ZOO 1010C: General Zoology 3 hours
   - ZOO 3733C: Human Anatomy 4 hours

   **Special Methods**
   - SCE 3330: Science Instructional Analysis 4 hours

4. Restrictive electives
   Select 6-8 hours from the following courses: BOT 3223C, 3303C, MCB 2013C, PCB 3703C.

5. Electives
   Select in consultation with advisor.

   Total Semester Hours Required 120

   **Chemistry Specialization**
   
   **CORE**
   - CHM 2045: Chemistry Fundamentals I 4 hours
   - CHM 2046: Chemistry Fundamentals II 3 hours
   - CHM 2046L: Chemistry Fundamentals Laboratory 1 hour
   - CHM 3121C: Analytical Chemistry 5 hours
   - CHM 3210: Organic Chemistry I 3 hours
   - CHM 3211: Organic Chemistry II 3 hours
   - CHM 3211L: Organic Chemistry Laboratory 2 hours

   **Special Methods**
   - SCE 3330: Science Instructional Analysis 4 hours

   **Mathematics**
   - MAC 1104: College Algebra 3 hours
   - MAC 1114: College Trigonometry 3 hours
   - MAC 3311: Calculus with Analytic Geometry I 4 hours
   - MAC 3312: Calculus with Analytic Geometry II 4 hours

4. Restricted Elective
   Select one Chemistry course

5. Electives
   Select in consultation with Advisor

   Total Semester Hours Required 120

   **Physics Specialization**
   
   **CORE**
   - AST 1005: Astronomy 3 hours
   - PHY 2040: University Physics I 3 hours
   - PHY 2040L: University Physics Laboratory I 1 hour
   - PHY 2041: University Physics II 3 hours
   - PHY 2041L: University Physics Laboratory II 1 hour
   - PHY 3421C: Optics and Modern Physics 4 hours
   - PHY 3752C: Physics of Scientific Instruments 4 hours

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Special Methods
SCE 3330 Science Instructional Analysis 3 hours

Mathematics
MAC 1104 College Algebra 3 hours
MAC 1114 College Trigonometry 3 hours
MAC 3311 Calculus with Analytic Geometry I 4 hours
MAC 3312 Calculus with Analytic Geometry II 4 hours

4. Restricted Electives
Select one course in Physics 3 hours

5. Electives
Select in consultation with Advisor

Total Semester Hours Required 120

BACHELOR OF ARTS: SPEECH EDUCATION

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 141, 146)
3. Required Courses
   Lower Division
   ENC 1101 Composition I 3 hours
   ENC 1102 Composition II 3 hours
   Speech and Communications
   SPC 1014 Fundamentals of Oral Communication 3 hours
   COM 1000 Basic Communications 3 hours
   COM 3311 Communication as a Behavioral Science 3 hours
   LIN 3200 English Phonetics and American Dialects 4 hours
   ORI 2001 Oral Interpretation I 3 hours
   SPC 3425 Group Interaction & Decision Making 3 hours
   SPC 3511 Argumentation and Debate 3 hours
   SPC 3445 Leadership through Oral Communication 3 hours
   SED 4371 Direction Extracurricular Speech Activities 3 hours
   Special Methods
   SED 3335 Speech Instructional Analysis 3 hours
4. Restricted Electives
   Select from the following: LIN 3010, 4612, CRW 3410, LIN 4801, or ENC 3310. 6 hours
5. Electives
   Total Semester Hours Required 120

BACHELOR OF ARTS: SOCIAL SCIENCE EDUCATION

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See pages 141, 146)
3. Required Courses
   Specialization (lower division)
   ECO 2013 Principles of Macroeconomics 3 hours
   EUH 2000 Western Civilization I 3 hours
   EUH 2001 Western Civilization II 3 hours
   AMH 2010 U.S. History 1492-1877 3 hours
   AMH 2020 U.S. History 1877-present 3 hours
   POS 2041 American National Government 3 hours
   SOC 2000 General Sociology 3 hours
   Specialization (upper division)
   GEO 3370 Resources Geography 3 hours
   GEO 3470 or 3602 Comparative Politics 3 hours
   POS 3103
Special Methods
SSE 3333 Social Science Instructional Analysis 4 hours

4. Restricted Electives (upper division) 15 hours
Select six hours from History, six hours from Sociology or Political Science, and three hours from the remaining area.

5. Electives

Total Semester Hours Required 120

BACHELOR OF ARTS: VISUAL ARTS EDUCATION

Degree Requirements
1. University graduation requirements
(See pages 41-43)
2. Special college and/or department requirements
(See pages 141, 146)
3. Required Courses
   Specialization
   ART 2201C Design Fundamentals I 3 hours
   ART 2300C Drawing Fundamentals I 3 hours
   ART 3110C Ceramics 3 hours
   ART 3230C Design in Advertising 3 hours
   ART 3400C Printmaking 3 hours
   ART 3510C Painting 3 hours
   ART 3600C Photography 3 hours
   ART 4130C Fibers, Fabrics, Textiles and Synthetics 3 hours
   ART 4166C Metals, Woods, Leather and Stones 3 hours
   Special Methods
   ARE 4141 Methodology for Teaching K-12 Art Education I 2 hours
   ARE 4142 Methodology for Teaching K-12 Art Education II 2 hours
   Curriculum
   ARE 4440 Two-Dimensional Instructional Materials 3 hours
   ARE 4443 Three-Dimensional Instructional Materials 3 hours
   ARE 4441 Graphics Instructional Materials 3 hours
   ART 5109C Crafts Design 3 hours
4. Restricted Electives (select one) ARH 2050 or 2051 or 4700.
5. Electives

Total Semester Hours Required 121

BACHELOR OF ARTS: TECHNICAL/VOCATIONAL

Degree Requirements
1. University graduation requirements
(See pages 41-43)
2. Special college and/or department requirements
(See pages 141, 146)
3. Required Courses
   Professional Education
   Phase I Exploration
   EVT 3371 Essential Teaching Skills in VOED 3 hours
   EDF 4214 Classroom Learning Principles 3 hours
   Phase II Developmental
   EVT 3365 Methods of Teaching in VOED Subjects 4 hours
   EVT 3367 Evaluation of Vocational Instruction 2 hours
   EVT 3562 Special Needs of Vocational Students 3 hours
   EVT 3815 Management of Vocational Classroom & Laboratory OR
   EVT 3311 Preparation for Clinical Teaching in VOED 3 hours

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### Areas of Specialization

#### Health Occupations
30 hours
Students must complete a specialization in the Health Occupations area by meeting the licensure requirements for teacher certification set forth in the Florida Accreditations Codes.

#### Industrial/Technical
30 hours
Students must complete a specialization in an Industrial/Technical area by passing both the written and performance portions of the National Occupational Competency Test. This Occupational Competency Test must be successfully completed before the student is eligible for EDG 4941, Directed Field Experience.

In both health Occupations and Industrial/Technical specializations, students must have completed at least two years of work experience PRIOR TO GRADUATION at the Journeyman, professional, technician, engineer or trained employee level.

A sample of National Occupational Competency Tests Available:
- Auto Mechanic
- Industrial Electrician
- Air Conditioning & Refrigeration
- Machine Drafting
- Architectural Drafting
- Machine Trades
- Audio-Visual Communication
- Major Appliance Repair
- Automotive Body & Fender
- Masonry
- Brick Masonry
- Printing
- Cabinet Making & Millwork
- Plumbing
- Carpentry
- Power Sewing
- Cosmetology
- Quantity Food Preparation
- Commercial Art
- Sheet Metal
- Diesel Engine
- Small Engine Repair
- Electrical Installation
- Tool & Die Making
- Electronics Communications
- Welding

4. Restricted Electives (none)
5. Electives (must be upper division level)

Total Semester Hours Required 121
The College of Education offers advanced courses for students, who have a baccalaureate degree, to meet certificate requirements for professional or personal updating, for transfer to other institutions (subject to the acceptance criteria of the other institution), or for earning the Master of Education or Master of Arts degree.

The Master of Education degree is for people with a background in education who are interested primarily in K-12 grade positions. Master of Arts degrees have been designed for fulfilling the needs of people with noneducation backgrounds who want to become qualified for teaching and other leadership roles in elementary, secondary and in some instances, post secondary positions. Master of Arts degrees are also available in a few areas by special arrangements for educators in private and governmental agencies not under certification regulations.

The degree programs for the Florida Post Graduate certificate are designed to develop a high level of proficiency in educational personnel, in three categories:

A. Core—expansion of background in research, learning developmental and measurement factors.
B. Curriculum—improvement of skill in program planning and instructional techniques.
C. Subject field content—extension of knowledge in his specialization field. Certification in the specialties may be pursued independently of a degree program.

**MASTER OF EDUCATION ADMISSION REQUIREMENTS**

1. University graduation requirements
   (See pages 41-43)
2. College or Program Admission Requirements. For international students TOEFL score: 500 minimum.
   Course work must be completed for a State of Florida Teaching Certificate in the area of specialization. While not required for admission, student teaching (undergraduate or graduate level) or 3 years teaching experience is required for any bachelor's level Florida certificate. Three years teaching experience is required for certification in Administration or Supervision.

**Degree Requirements**

1. University Graduate Policies and Procedures: See the Graduate Studies section of the current UCF Graduate Procedures Manual, available in the Office of the Program Coordinator.
2. Prerequisites: None
3. Required Courses: EDF 6481, Fundamentals of Graduate Research in Education; various other courses, practica or internships required in specific programs.
4. Restricted Electives: Specified by advisors in programs.
5. Research Report: Required; 3 hours of credit.
6. Examinations: Written comprehensive examination required.

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<tr>
<th>Total Semester Hours Required</th>
<th>Thesis Option</th>
<th>Non-Thesis Option</th>
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<tbody>
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</tbody>
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**AREAS OF SPECIALIZATION**

 Administration & Supervision  
 Business Education (Comprehensive)  
 Elementary Education  
 English Language Arts Education  
 Exceptional Child  
 Foreign Language Education  
 Educational Media Specialist  
 Guidance  
 Mathematics Education  
 Music Education  
 Physical Education  
 Reading Specialist  
 Science Education  
 Social Science Education  
 Speech Education  
 Visual Arts Education  
 Vocational Education
MASTER OF ARTS ADMISSION REQUIREMENTS
1. University graduation requirements
   (See pages 41-43)
2. College or Program Admission Requirements. For international students TOEFL score: 500 minimum.

Degree Requirements
1. University Graduate Policies and Procedures: See the Graduate Studies section of the current UCF Graduate Procedures Manual, available in the Office of the Program Coordinator.
2. Prerequisites: Varies with the program; contact the program coordinator.
3. Required Courses: EDF 6481, Fundamentals of Graduate Research in Education; others required in specific programs.
4. Restricted Electives: Specified by advisors in programs.
5. Research Report: Required; 3 hours of credit.
6. Examinations: Written comprehensive examination required.
   Total Semester Hours Required 39-42 (varies with specialty)

   Thesis Option None
   Non-Thesis Option None

AREAS OF SPECIALIZATION
Administration & Supervision
Business Education (Comprehensive)
Elementary Education
English Language Arts Education
Exceptional Child
Foreign Language Education
Educational Media Specialist
Guidance
Mathematics Education
Music Education
Physical Education
Reading Specialist
Science Education
Social Science Education
Speech Education
Visual Arts Education
Vocational Education

MASTER OF SCIENCE ADMISSION REQUIREMENTS
1. University graduation requirements
   (See pages 41-43)
2. College or Program Admission Requirements. For international students TOEFL score: 500 minimum.

Degree Requirements
1. University Graduate Policies and Procedures: See the Graduate Studies section of the current UCF Graduate Procedures Manual, available in the Office of the Program Coordinator.
2. Prerequisites: Varies with the program; contact the program coordinator.
3. Required Courses: EDF 6481, Fundamentals of Graduate Research in Education; others required in specific options.
4. Restricted Electives: Specified by advisors in program.
5. Research Report: Required; 3 hours of credit.
6. Examinations: Written comprehensive examination required.
   Total Semester Hours Required 60
   Thesis Option None
   Non-Thesis Option None

AREA OF SPECIALIZATION
School Psychology
COOPERATIVE DOCTORAL PROGRAM

Florida Atlantic University in Boca Raton offers two specialists doctoral (Ed.D. and Ed.S.) programs through the College of Education. One is in administration and supervision, which is for people interested in decision-making positions in school organizations. The second degree, in curriculum and instruction, with an emphasis on a content subject field discipline, is designed primarily for the junior college teacher. The subject field areas possible in curriculum and instruction are limited to the fields in which a master's degree is already offered at either UCF or FAU.

The University of Florida, through cooperative programs, offers Doctor of Education and Educational Specialist degrees. The fields involved are Instructional Leadership, Counselor Education, Childhood Education, and Exceptional Child Education.

Contact the College of Education Graduate Program Coordinator for further information.
COLLEGE OF ENGINEERING

UNDERGRADUATE PROGRAMS
ENGINEERING
Civil Engineering (BSE)
Electrical Engineering (BSE)
Engineering Mathematics & Computer Systems (BSE)
Environmental Engineering (BSE)
Industrial Engineering (BSE)
Mechanical Engineering (BSE)

ENGINEERING TECHNOLOGY
Design Technology (BET)
Electronics Technology (BET)
Environmental Control Technology (BET)
Operations Technology (BET)

GRADUATE PROGRAMS
ENGINEERING
Civil Engineering (MSE)
Electrical Engineering (MSE)
Engineering (MS)
Engineering Mathematical & Computer Systems (MSE)
Environmental Engineering (MSE)
Industrial Engineering (MSE)
Mechanical Engineering (MSE)

ENVIRONMENTAL SYSTEMS MANAGEMENT (MSESMM)

DOCTORAL PROGRAM
Electrical Engineering (Ph.D.)

COLLEGE OF ENGINEERING

Dean: R. Kersten, EN 207, Phone 275-2156
Associate Dean: G. Schrader, EN 212, Phone 275-2156

PROFESSIONAL COLLEGE OF ENGINEERING
The Professional College of Engineering at the University of Central Florida was formally organized by the Engineering faculty in the Fall of 1974. The objective of the Professional College of Engineering is to produce well qualified, competent graduates from outstanding accredited programs for the practice of engineering and to conduct research and service responsive to the State of Florida and National needs. To achieve high professional status, the Professional College of Engineering has developed a unique and outstanding educational program to serve the people of Florida by providing engineering education in specifically selected professional disciplines.

ENGINEERING CURRICULUM
The Engineering curriculum is directed toward professional objectives which are best met by completing the baccalaureate degree program followed by additional professional education at the graduate level leading to the Master of Science in Engineering. The satisfactory completion of an engineering curriculum of a minimum of 128 semester hours, including environmental studies courses, an engineering core curriculum, and both required and elective courses of study in an engineering option of the student's choice, leads to the degree of Bachelor of Science in Engineering. Graduates of the College of Engineering may pursue a wide variety of careers in private practice, industry, education, and government. As of Fall 1977, it is the policy of the Professional College of Engineering that all graduates from the Engineering Curriculum who receive...
the Bachelor of Science in Engineering or Master of Science in Engineering degrees must have taken the Fundamentals of Engineering examination (Examination of the Florida State Board of Professional Engineers and Land Surveyors or equivalent) as a graduation requirement. This policy will apply to all students entering UCF as of Fall 1977.

Students who wish to be admitted to full freshman standing in engineering studies in the College should present certain secondary school units in addition to the minimum University requirements. A total of 3½ units is required in mathematics, including advanced algebra, geometry, and trigonometry. Calculus is recommended. The laboratory sciences chosen must include at least one unit in physics and one in chemistry. One unit of biology is strongly recommended.

Subject to the general grade and residence requirements of the University, provisional credit will be granted for transferred course work equivalent to that required in the University of Central Florida's engineering program. These provisional credits will become final only after the student has demonstrated his ability to do satisfactory work at the University. Transfer credits in pre-engineering from a junior college will be used to satisfy freshman and sophomore level requirements only. Typically, students who have completed the A.A. degree (or equivalent education) with calculus, chemistry, physics, engineering graphics, and a course in computer science (with FORTRAN) can complete the B.S.E. program in two additional years. The status of a student and the specific credits acceptable toward his degree will be determined by the Dean of the College.

ENGINEERING TECHNOLOGY CURRICULUM

Satisfactory completion of an engineering technology curriculum of 128 semester hours, including environmental studies courses, an engineering technology core curriculum, and required and elective courses in a selected technology module of the student's choice, leads to the degree of Bachelor of Engineering Technology. Technology graduates may also seek a wide variety of careers in private practice, industry, and government. Programs of study are applications oriented and are designed to assist the student in attainment of his career objectives.

Students who wish to be admitted to the engineering technology program must possess an Associate of Science (or equivalent education) degree in an appropriate engineering technology area. The engineering technology program provides junior and senior year education. Freshman and sophomore year technology education must be taken at a community college or equivalent. Typically students who have completed the A.S. degree in technology should complete the BET program in two additional years. The status of a student and the specific credits acceptable toward his degree will be determined by the Dean of the College. Provisional credits accepted for transferred course work will become final only after a student has demonstrated his ability to do satisfactory work at the University. Students from engineering programs may transfer into the engineering technology program at the junior level.

STUDENT PERFORMANCE

Prior to enrolling in courses at the professional level, each student must: (1) receive approval from the office of the Dean of Engineering, and (2) secure from his advisor an approved course of study for his remaining work. Generally, students with a 2.0 grade point average (C average), or higher in the basic phase will receive approval.

Counseling is provided in order that the student may be aided in making his choice of major. Required and elective courses for each area are listed later in this Bulletin and changes or substitutions may be made only with the approval of the Dean.

Any student whose written or spoken English in any course is unsatisfactory may be reported by the instructor to the Dean. The Dean may assign supplementary work, including additional course work, consistent with the needs of the student. The granting of a degree may be delayed until the work is satisfactorily completed.
A student enrolled in the College as an undergraduate must fulfill all University degree requirements including the General Education Program, as well as the specialized curriculum requirements for the particular degree option being pursued. To be certified for graduation, a student must achieve a "C" grade point average (2.0) overall and in the courses in his major (option plus selected upper division core courses) within the College.

**BACHELOR OF SCIENCE IN ENGINEERING DEGREE PROGRAM**

**Program Coordinator:** J. Paul Hartman, EN 215B, Phone 275-2156.

Engineering is one of the most important evolutionary forces in civilization today. The professional engineer should assume a leading role not only in the conceptual and planning stages but also in the design, manufacturing, construction, operation, and management phases of various engineering facilities and programs. At the same time, the professional engineer should understand that engineering innovation is a means of solving problems in our society and accept a large measure of social responsibility for significant engineering developments.

The professional engineer is the key individual in a team of technical specialists which includes engineering design specialists, engineering operations and management specialists, and engineering technicians. It is the purpose of the University of Central Florida’s engineering program to provide the broad university level educational opportunities requisite for preparing qualified individuals to make effective contributions through careers in engineering and applied science in our technologically oriented society.

The principal areas of study in the engineering curriculum are devoted to the basic sciences, mathematics and the fundamentals of engineering problem solving. These courses are not training courses for any of the mechanical or manipulative skills, but rather are planned to provide preparation for development, planning, design, research, graduate work, and, with certain electives, for operation, production, testing, maintenance and management. This program prepares the student for professional registration, and for the pursuit of graduate work in engineering. In addition, basic engineering programs are increasingly being considered as appropriate preparation for advanced study in other professional areas, e.g., law, medicine, architecture. For assistance and counsel in planning a program, each student will be assigned an advisor from the instructional staff in his chosen area of interest.

**ENGINEERING CORE REQUIREMENTS**

The engineering core consists of basic and professional subject matter that is common to all options. Because this requirement is a substantial part of the Bachelor’s degree program, it gives the student time to become adjusted and to choose a field of specialization for which he is best suited.

**BASIC PHASE**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COP 3215</td>
<td>Programming and Numerical Methods</td>
<td>3</td>
</tr>
<tr>
<td>EGN 1111C</td>
<td>Engineering Graphics</td>
<td>2</td>
</tr>
<tr>
<td>EGN 1380</td>
<td>Chemical Foundations of Engineering</td>
<td>4</td>
</tr>
<tr>
<td>EGN 2382</td>
<td>Engineering Concepts</td>
<td>3</td>
</tr>
<tr>
<td>EGN 3311</td>
<td>Engineering Analysis-Statics</td>
<td>3</td>
</tr>
<tr>
<td>EGN 3363</td>
<td>Structure and Properties of Materials</td>
<td>3</td>
</tr>
<tr>
<td>EGN 3383</td>
<td>Electrical Science</td>
<td>3</td>
</tr>
<tr>
<td>EGN 3613</td>
<td>Engineering Economic Analysis</td>
<td>2</td>
</tr>
<tr>
<td>EGN 3704</td>
<td>Engineering and the Environment</td>
<td>2</td>
</tr>
<tr>
<td>ENC 3241</td>
<td>Professional Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>MAC 3311, 3312, 3313</td>
<td>Calculus and Analytic Geometry</td>
<td>12</td>
</tr>
<tr>
<td>Biological or Earth Science Electives</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

1 Includes portions of the General Education Program.
2 Students without one secondary school unit of Chemistry should enroll in CHM 1034 and CHM 2046L prior to taking EGN 1380.
3 Students without one secondary school unit of Physics should enroll in PHY 2050C prior to taking EGN 2382.
4 Substitute for ENC 1102.
### PROFESSIONAL PHASE

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGN 3321</td>
<td>Engineering Analysis-Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>EGN 3331C</td>
<td>Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>EGN 3343</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>EGN 3353C</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>EGN 3373C</td>
<td>Principles of Electrical Engineering</td>
<td>4</td>
</tr>
<tr>
<td>EGN 3375</td>
<td>Electrical Devices and Systems</td>
<td>3</td>
</tr>
<tr>
<td>ENG 3703</td>
<td>Systems Analysis</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>EGN 4714</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Linear Control Systems*</td>
<td></td>
</tr>
<tr>
<td>EGN 4624</td>
<td>Engineering Administration</td>
<td>3</td>
</tr>
<tr>
<td>EGN 4634</td>
<td>Operations Research</td>
<td>2</td>
</tr>
<tr>
<td>MAP 3302</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3421C</td>
<td>Optics and Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>STA 3032</td>
<td>Probability and Statistics for Engineers</td>
<td>3</td>
</tr>
</tbody>
</table>

* Consult Department Chairman for specific courses required in option.

### DEPARTMENT OF CIVIL ENGINEERING AND ENVIRONMENTAL SCIENCES

**Chairman:** M. Wanielista, EN 410, Phone 275-2841  
**Faculty:** Block, Carroll, Cooper, Hartman, Jenkins, Kersten, McLellan, Muiga, Taylor, Yousef

The Department of Civil Engineering and Environmental Sciences offers an option in Environmental Engineering and an option in Civil Engineering. The Environmental Engineering option is concerned primarily with the interaction of man and his environment, and the planning, design, and control of systems for environmental quality management, with emphasis on the water environment. The Civil Engineering option is primarily concerned with fundamental civil engineering design and analysis skills in such areas as structures, soil mechanics, sanitary engineering and transportation. Environmental and civil engineers are responsible for research, development, planning, design, and construction of structures and processes that form the basis of contemporary civilization.

Programs of study are available within these options which enable the student to pursue an integrated sequence of courses in major fields. These include not only basic and fundamental civil and environmental engineering disciplines, but also specialized support courses in areas of environmental and water resources engineering, structures and geotechnical engineering, and transportation and urban systems engineering. These courses reflect contemporary developments and trends in these engineering disciplines.

The curriculum in Environmental Engineering (leading to a B.S.E. degree) is fully accredited by the Accreditation Board for Engineering and Technology (ABET).

### BACHELOR OF SCIENCE IN ENGINEERING  
### CIVIL ENGINEERING

**Degree Requirements**

1. University graduation requirements  
   (See pages 41-43)
2. General Education Program requirements  
   (See page 41)
3. Engineering core requirements  
   (See page 159)
4. Required Courses
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CES 4124</td>
<td>Structural Engineering Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CES 4605</td>
<td>Structural Steel Design</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>Structural Concrete Design</td>
<td>3</td>
</tr>
<tr>
<td>ECI 4305</td>
<td>Geotechnical Engineering I</td>
<td>3</td>
</tr>
<tr>
<td>ECI 4323</td>
<td>Civil Engineering Systems Design</td>
<td>2</td>
</tr>
<tr>
<td>ENV 4404</td>
<td>Hydrology and Hydraulics</td>
<td>4</td>
</tr>
</tbody>
</table>
ENV 4504  Environmental Engineering—Process Design  4 hours
TTE 4004  Transportation Engineering  3 hours

5. Restricted Electives
   Technical Electives are to be courses consistent with department objectives and
   chosen with the approval of the student's faculty advisor and department chairman.

6. Electives
   None

Total Semester Hours Required  128

BACHELOR OF SCIENCE IN ENGINEERING:
ENVIRONMENTAL ENGINEERING

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. General Education Program requirements
   (See page 41)
3. Engineering core requirements
   (See page 159)
4. Required Courses
   EES 4202  Chemical Process Control  3 hours
   EES 4204  Biological Process Control  3 hours
   ENV 4119  Air Pollution  3 hours
   ENV 4355  Solid and Hazardous Wastes  3 hours
   ENV 4404  Hydrology and Hydraulics  4 hours
   ENV 4434  Environmental Engineering Systems Design  2 hours
   ENV 4504  Environmental Engineering Process Design  4 hours

5. Restricted Electives
   Technical Electives are to be courses consistent with department objectives and
   chosen with the approval of the student's faculty advisor and department chairman.
   Must include at least one design course.

6. Electives
   None

Total Semester Hours Required  128
DEPARTMENT OF ELECTRICAL ENGINEERING AND COMMUNICATION SCIENCES
Chairman: B. Petrasko, EN 315, Phone 275-2786
Faculty: Erickson, Harden, Harris, Mathews, Miller, Patz, Phillips, Simons, Towle, Walker

Electrical Engineers are primarily concerned with the development and utilization of devices and systems which are based on electrical phenomena. The range of application includes computer systems, electronics, control systems, electrical power utilization, communication systems, medical instrumentation, etc. The electrical engineer can find professional challenges in virtually every facet of modern technology.

The option in Electrical Engineering is designed to present the basic electrical engineering principles which are common to this broad spectrum of application. In addition, courses are offered which present in-depth studies of specific electrical engineering sub-disciplines such as computer engineering, electrical networks, and electronics, electromagnetic fields and microwaves, electromechanics and control, power transmission and utilization, communication and information theory, and solid state systems and devices.

Many modern scientific developments are either essentially electrical in character or depend on electrical equipment and technique. Electrical Engineering graduates will find a broad employment opportunity in the field since it enters into much of industry and service where power is utilized, intelligence transmitted, and control exercised over physical, chemical, or mechanical operations. The curriculum in Electrical Engineering (leading to the B.S.E. degree) is fully accredited by the Accreditation Board for Engineering and Technology (ABET).

BACHELOR OF SCIENCE IN ENGINEERING: ELECTRICAL ENGINEERING

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. General Education Program requirements
   (See page 41)
3. Engineering core requirements
   (See page 159)
4. Required Courses
   EEL 3122  Electrical Networks  3 hours
   EEL 3307C  Electronic Engineering  4 hours
   EEL 3470  Electromagnetic Fields  3 hours
   EEL 4342C  Logical Component Design  4 hours
   EEL 3552C  Signal Analysis and Communications  4 hours
5. Restricted Electives
   Technical Electives are to be courses consistent with department objectives and chosen with the approval of the student's faculty advisor and department chairman, and must include one additional design course.
6. Electives
   None
Total Semester Hours Required 128

ENGINEERING MATHEMATICS AND COMPUTER SYSTEMS
Chairman: G. Whitehouse, EN 412, Phone 275-2236
Faculty: Bauer, Carroll, Mosleh, Klee, Patz, Simons

In contemporary professional engineering practice, and in research and development activities there is an increasing need for engineers with a high degree of training and capability in the application of mathematics and computers to the modeling, simulation and solution of complex technical problems. Many of our modern industries and governmental organizations are involved in the design and analysis of highly complex equipments and systems often requiring rigorous mathematical treatment which can only
be carried out effectively through the use of modern, high speed, digital/analog/hybrid computer facilities. The computer has become an indispensible partner to the aerospace systems designer, the microelectronic circuit designer, the environmental systems analyst, the industrial manager, and many other professional engineering oriented activities. Thus, students majoring in Engineering Mathematics and Computer Systems will enjoy a broad spectrum of challenging opportunities.

The option is inter-disciplinary and allows considerable flexibility in tailoring programs to fit individual student interest. The curriculum in Engineering Mathematics and Computer Systems is fully accredited by the Accreditation Board for Engineering and Technology (ABET).

**BACHELOR OF SCIENCE IN ENGINEERING: ENGINEERING MATHEMATICS AND COMPUTER SYSTEMS**

**Degree Requirements**

1. University graduation requirements
   (See pages 41-43)

2. General Education Program requirements
   (See page 41)

3. Engineering core requirements
   (See page 159)

4. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECM 4124</td>
<td>Mathematical Modeling for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>ECM 4504</td>
<td>Mini-Computers in Engineering Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECM 4411</td>
<td>Discrete Time Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECM 4804</td>
<td>Engineering Software Design</td>
<td>3</td>
</tr>
<tr>
<td>EEL 4342C</td>
<td>Introduction to Digital Circuits and Systems</td>
<td>4</td>
</tr>
<tr>
<td>EGN 4714</td>
<td>Linear Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>ESI 4144</td>
<td>Engineering Applications of Computer Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

5. Restricted Electives
   Technical Electives are to be courses consistent with department objectives and chosen with the approval of the student's faculty advisor and department chairman.

6. Electives
   None

Total Semester Hours Required: 128

**DEPARTMENT OF INDUSTRIAL ENGINEERING & MANAGEMENT SYSTEMS**

**Chairman:** G. Whitehouse, EN 412, Phone 275-2236

**Faculty:** Bauer, Doering, Gambrell, Hosni, Klee, Linton, Schrader, Supulveda, Suhr, White

The option in Industrial Engineering is concerned principally with the design, improvement and installation of integrated systems of men, materials, and equipment for operations through the application of the principles of the engineering, mathematical, physical, and behavioral sciences.

The program of study available within this option enables the student to pursue an integrated series or sequence of courses in the major field which includes not only basic and fundamental courses but specialized courses as well, in the areas of management standards development, production and inventory control, project management, work analysis and design, management information systems, computer simulation, operations research, industrial facilities planning and design, and human engineering. These specialized courses reflect the contemporary developments and trends in each of these areas with emphasis on uses of the digital computer in appropriate courses.

There is a growing tendency on the part of industry, government and institutions to select engineering personnel for managerial positions. Because of this the IEMS courses are oriented to systems management principles and concepts so as to enable the Indus-
trials Engineering graduate to accept and succeed in these opportunities. The curriculum in Industrial Engineering (leading to the B.S.E. degree) is fully accredited by the Accreditation Board for Engineering and Technology (ABET).

**BACHELOR OF SCIENCE IN ENGINEERING: INDUSTRIAL ENGINEERING**

**Degree Requirements**

1. University graduation requirements
   (See pages 41-43)

2. General Education Program requirements
   (See page 41)

3. Engineering core requirements
   (See page 159)

4. Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 3812</td>
<td>Accounting for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>EIN 3315C</td>
<td>Work Measurement and Design</td>
<td>3</td>
</tr>
<tr>
<td>EIN 4118</td>
<td>Industrial Engineering Applications of Computers</td>
<td>3</td>
</tr>
<tr>
<td>EIN 4332</td>
<td>Industrial Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>EIN 4364</td>
<td>Industrial Facilities Planning and Design</td>
<td>3</td>
</tr>
<tr>
<td>ESI 4314</td>
<td>Quantitative Techniques in Industrial Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ESI 4234</td>
<td>Engineering Reliability and Quality Assurance</td>
<td>3</td>
</tr>
</tbody>
</table>

5. Restricted Electives

   Technical Electives are to be courses consistent with department objectives and chosen with the approval of the student’s faculty advisor and department chairman.

6. Electives

   None

   Total Semester Hours Required: 128

**DEPARTMENT OF MECHANICAL ENGINEERING AND AEROSPACE SCIENCES**

Chairman: B. Eno, EN 115, Phone 275-2416  
Faculty: Beck, Bishop, Chang, Gunnerson, Hagedoorn, Hosler, Minardi, Mostehey, Nuckols, Smith, Ventre

The Department of Mechanical Engineering and Aerospace Sciences is primarily concerned with dynamic physical systems such as transportation, production and energy conversion. Because such systems involve an energy source, the mechanical or aerospace engineer is concerned with the application of the basic laws of the engineering sciences to the conversion, transfer and control of the energy. When dealing with problems of this nature, the engineer must consider the economic constraints and the social implications of the solutions which he proposes.

The Mechanical Engineering option provides the student with the opportunity to pursue his educational objectives within the framework of this broad theme. Primary emphasis is given to the departmental subdisciplines of aerospace sciences, measurement systems engineering, mechanical systems design and control, energy conversion and power systems, thermal sciences and engineering acoustics.

The program is specifically designed to give the student a broad-based undergraduate engineering sciences program in order that he will have sufficient knowledge to converse with specialists in other fields of engineering and to analyze on his own the more basic problems in these fields. By judiciously selecting courses from the department subdisciplines, a firm foundation is laid in order that the student will obtain the theoretical tools and the design methodology to pursue successfully a career in the mechanical or aerospace engineering professions. The Curriculum in Mechanical Engineering (leading to the B.S.E. degree) is fully accredited by the Accreditation Board for Engineering and Technology (ABET).
BACHELOR OF SCIENCE IN ENGINEERING:
MECHANICAL ENGINEERING

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. General Education Program requirements
   (See page 41)
3. Engineering core requirements
   (See page 159)
4. Required Courses
   EML 3106  Thermodynamics of Mechanical Systems  3 hours
   EML 3262  Kinematics of Mechanisms  3 hours
   EML 3303  Measurement Systems  2 hours
   EML 3502  Machine Design and Analysis  3 hours
   EML 4142  Heat Transfer  3 hours
   EML 4222  Vibration Analysis  3 hours
   EML 4505  Engineering Design  3 hours
   EML 4412L Mechanical Engineering Laboratory  2 hours
5. Restricted Electives
   Technical Electives are to be courses consistent with department objectives and chosen with the approval of the student's faculty advisor and department chairman.
   4 hours
6. Electives
   None
   Total Semester Hours Required  128

DEPARTMENT OF ENGINEERING TECHNOLOGY
Chairman: R. Denning, EN 118, Phone 275-2268
Faculty: Bullard, Dehler, Griffith, Head, Hubler, Lewis, Worbs

The Engineering Technology Degree Program at UCF includes only the upper division (junior and senior years) and is designated primarily for the student who has completed an A.S. degree in Engineering Technology or an equivalent program at a community college. The community college two-year associate of science program is designed to provide the student with the training necessary to become an engineering technician. The upper division Bachelor of Engineering Technology program at the University of Central Florida is designed to advance the engineering technician to the engineering technologist level.

The four year engineering technology graduate will provide a vital link in the engineering—fabrication/construction—facility operations chain. He will be practice and applications oriented while at the same time, possessing a broad and comprehensive education in the field. As such he will be a key individual in teams of technical specialists dealing with the environment today. Completion of the required curriculum will prepare qualified individuals to make significant contributions to society and will allow them to progress into responsible technical and management positions.

Principal areas of study in the engineering technology curriculum, building on a sound base attained through the AS degree, will include mathematics and communications. In addition, substantial additional work will be taken in the technical sciences and technical specialty. The courses will include theory and practice along with training. Hence they will provide a sound technical base for subsequent work. For assistance and counsel in planning a program, each student will be assigned an advisor to assist him in selecting the best course sequence to meet his career objectives.

The areas of specialization (modules) in Engineering Technology are concerned principally with the details of design, maintenance, operation, environmental monitoring and the fabrication/construction functions. The work of the technologists in direct support of the engineer and the emphasis is on material results and details as constructed, within the broader conceptual and systems processes of the engineer.
Four engineering technology modules (options) are offered as shown, and all are accredited by the Accreditation Board for Engineering and Technology (ABET). The courses listed in each module are recommended for all students electing to pursue that option. Any deviation from the recommended course in the option must be approved by the Department Chairman and the Dean.

**BACHELOR OF ENGINEERING TECHNOLOGY**

**Degree Requirements**

1. University Graduation requirements
   (See pages 41-43)

2. General Education Program requirements (See page 41)
   - Basic (43 hours)
     - Community College (36 hours)
     - UCF (7 hours)
   - Advanced (6 hours)

3. Required Courses
   The program to be taken at UCF requires a total of 128 semester hours. Assuming good articulation with the Associate of Science Program being transferred, the following courses will be required:
   - Transferred from Community College
     - Lower Level Technical Specialty 32 hours
     - General Education Program (Includes Science & Math) 26 hours
     - Related Studies 6 hours
     - TOTAL (Maximum transfer) 64 hours
   - Additional General Education and Related Studies
     - General Education Program 13 hours
     - Additional Mathematics/Science Elective 4 hours
   - Total 17 hours

   * Includes algebra, trigonometry, basic science, English, speech or report writing, humanities and social sciences. At least one course each in chemistry, physics and computer science should be completed at the Community College. Credit shown is maximum transferable under this program.

   **Engineering Technology Core**
   - ETE 4111 Electricity and Electronics 4 hours
   - ETG 3510 Applied Statics 4 hours
   - ETG 4530 Strength of Materials 3 hours
   - ETI 3421 Materials and Processes 3 hours
   - ETI 3671 Technical Economic Analysis 2 hours
   - ETM 4310 Applied Thermodynamics and Fluid Mechanics 4 hours
   - MAC 3930 Applied Calculus 4 hours
   - MAP 3401 Problem Analysis 3 hours
   - STA 3023 Fundamentals of Probability and Statistics 3 hours

   **TOTAL** 30 hours

   **Area of Specialization (see below)**
   - Total Minimum Hours Required (Community College 64, UCF 64) 128 hours

   **AREAS OF SPECIALIZATION**

1. **Design Technology Module**
   The specialization in Design Technology will present the student with the knowledge and skills needed for application to problems concerning specifications, calculations, and procedures involving the design, redesign, testing and operations of mechanical parts, units and assemblies. Typical community college AS Degree programs used for entrance to UCF’s Design Technology specialization are Mechanical, Drafting Design, Aerospace and Air Conditioning Technologies.

   **Required Courses (12 hours)**
   - ETC 4410 Structural Design 3 hours
   - ETE 4735 Electro-Mechanical Design 3 hours
   - ETI 3440 Product Design 3 hours
   - ETM 4403 Applied Kinematics 3 hours
Upper Level Technical Electives (8 hours)
At least two courses must be selected from the courses listed below.

- BCN 4230 Contracts and Specifications 4 hours
- ETM 4512 Applied Design of Machine Elements 3 hours
- ETM 4590 Design Integration 2 hours
- ETM 4750 Air Conditioning Design 3 hours

2. Electronics Technology Module

The specialization in Electronics Technology is designed to present the electronics principles beyond the first two years of study that are essential for installation, operation, maintenance and design support or electrical/electronics equipment and facilities. Typical community college AS Degree programs used for entrance to UCF’s Electronics Technology specialization are Electronic, Electrical and Instrumentation Technologies.

Required Courses (11-12 hours)

- ETE 3632 Digital Circuits or 3 hours
- ETE 4661 Computer Systems 4 hours
- ETE 4650 Microcomputer Electronics 4 hours
- ETE 3422 Electronic Communications Systems 4 hours

Electives (8-9 hours)

- ETE 4210 Servo Mechanisms 3 hours
- ETE 4423 Communication Systems II 3 hours
- ETE 4432 Antennas and Propagation 3 hours
- ETE 4122 Linear Integrated Circuits 3 hours
- ETE 4161L Senior Systems Laboratory 2 hours
- ETE 4326 Feedback Control 4 hours
- ETE 4541 Power Transmission 3 hours
- ETE 4562 Power Utilization 3 hours
- ETE 4735G Electro-Mechanical Design 4 hours

3. Environmental Control Technology Module

The specialization in Environmental Control Technology is designed to give the student upper level courses in water, wastewater, air pollution, solid wastes, sampling and analysis, and control processes that are essential for environmental operations control.

Typical community college AS Degree programs used for entrance to UCF’s Environmental Control Technology specialization are Environmental Control, Civil, and Chemical Technologies.

Required Courses (12 hours)

- ETM 3314 Hydraulics/Hydrology 2 hours
- EVS 3220 Wastewater Treatment 4 hours
- EVS 3240 Water Supply Systems 3 hours

Electives (8 hours)

- BCN 4230 Construction Methods, Contracts, and Specifications 4 hours
- ETI 4700 Occupational Safety 3 hours
- EVS 4362 Air Pollution Control 3 hours
- EVS 4682 Solid Waste Management 3 hours

4. Operations Technology

The module in Operations Technology is designed to present the management operations, supervisory and methods courses that are essential for operations control in the sales, service, manufacturing and construction industries. The curriculum is designed to accept a broad range of AS Degree backgrounds and develop the management and supervisory skills necessary to produce a marketable skill. AS Degree programs with emphasis on Architectural, Building Construction, Aerospace, Automotive Services, Civil, Computer, Fire Control, Drafting and Graphics, Industrial Management or Supervision, Quality Control and Surveying Technologies are normally acceptable.

Required Courses (10 hours)

- ETI 3651 Computer Methods in Industry 3 hours
- ETI 4650 Process Planning and Estimating 4 hours
- ETI 4700 Occupational Safety 3 hours
Electives (10 hours)
At least two courses must be selected from the courses below.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCN 4230</td>
<td>Construction Methods, Contracts and Specifications</td>
<td>4 hours</td>
</tr>
<tr>
<td>ETC 4410C</td>
<td>Structural Design</td>
<td>3 hours</td>
</tr>
<tr>
<td>ETI 3690</td>
<td>Technical Sales</td>
<td>2 hours</td>
</tr>
<tr>
<td>ETI 3440</td>
<td>Product Design</td>
<td>3 hours</td>
</tr>
<tr>
<td>ETI 4110</td>
<td>Industrial Quality Control</td>
<td>3 hours</td>
</tr>
<tr>
<td>ETI 4650</td>
<td>Process Planning and Estimating</td>
<td>4 hours</td>
</tr>
<tr>
<td>ETI 4611</td>
<td>Plant Layout, Material Handling and Work Analysis</td>
<td>3 hours</td>
</tr>
<tr>
<td>ETM 4750</td>
<td>Applied Air Conditioning</td>
<td>3 hours</td>
</tr>
</tbody>
</table>
COLLEGE OF ENGINEERING
GRADUATE PROGRAMS

The College of Engineering offers the Master of Science, the Master of Science in Engineering, the Master of Science in Environmental Systems Management and the Doctor of Philosophy (jointly with the U of F) in Electrical Engineering degrees.

These programs are designed to provide for advanced professional engineering education (MSE) or specialized education in selected areas (MS or MSESME). It is the objective of the College of Engineering to produce well-qualified, competent graduates from outstanding accredited programs for the professional practice of engineering and to conduct research and service responsive to the needs of the State of Florida and the Nation.

It has long been recognized that the minimum educational qualification for entry into the engineering profession is the five-year B.S.E./M.S.E. program. This unique "professional school" program is geared to educating practitioners of the profession. The program is clearly in the interests of protecting the health, safety, and general welfare of the public and recognizes the unique statutory (Florida Status Chapter 471) and accreditation (Engineers' Council for Professional Development) requirements imposed on those who teach and administer the program.

MASTER OF SCIENCE IN ENGINEERING
Program Coordinator: B. Mathews, EN 211, Phone 275-2156

Advanced professional engineering competencies are achieved through the M.S.E. program. This program is intended for those who have attained an engineering bachelor's degree. Based on the very strong undergraduate, interdepartmental, college-wide engineering core plus option approach, this program leads to the M.S.E. degree, also based on an interdisciplinary approach, but at the department level. Thus the effective and efficient unified core approach is continued through the master's level.

With the exception of the recently instituted Civil Engineering option, the Master of Science in Engineering programs are fully accredited by the Accreditation Board for Engineering and Technology (ABET).

Admission Requirements
1. University Admission Requirements
   (See pages 41-43)
2. College Admission Requirements
   a. Applicants for the M.S.E. program must have the B.S.E. or equivalent from an ABET accredited engineering curriculum in the appropriate discipline area.
   b. Applicants for the M.S. or M.S.E.S.M. programs must present baccalaureate credentials appropriate to the specialized area of study.
   c. Applicants from foreign countries whose native language is not English must score at least 500 on the Test of English as a Foreign Language (TOEFL).

Degree Requirements
1. University Graduate Policies and Procedures
   See the Graduate Studies Section of this bulletin and the current UCF Graduate Procedures Manual, available in the Office of the Program Coordinator.
2. Prerequisites: Engineering Bachelor's Degree or Equivalent.
3. Required Courses: See Departmental Specialization Core Course requirements in the following section. 12-20 hours
4. Restricted Electives: Additional subdiscipline-speciality courses 6-10 hours
   Additional advanced mathematics, computer systems, natural sciences, engineering sciences, or appropriate supportive areas (beyond B.S.E. core requirements or equivalent) 6-10 hours
5. Thesis or Research Report: Students must be registered in the semester in which application for graduation is filed 6 or 3 hours
6. Examination: Oral defense of thesis or research report is required. Satisfactory completion of comprehensive examination may be required. Total Semester Hours Required (M.S.E. Program) 30

MSE AREAS OF SPECIALIZATION

Departmental Specialization Core Course Requirements

Each student will select, with the approval of his graduate committee, departmental core courses as noted below for the professional options. Additional course work may be selected in one of the subdiscipline specialty areas to provide program depth. The student is referred to the course description section of the catalog for further information.

1. CIVIL ENGINEERING OPTION: The core requirements will be met by the following courses.

- CES 6606 Steel Design
- CES 6707 Concrete Design 3 hours
- ECI 6235 Open Channel Hydraulics 3 hours
- ECI 5306 Geotechnical Engineering II 3 hours
- ENV 6436 Water and Wastewater Systems Design 3 hours
- TTE 5204 Traffic Engineering
- TTE 5720 Design Elements of Transportation Systems 3 hours
- ECI 6045 Mathematical Modeling in Civil Engineering 3 hours

2. ELECTRICAL ENGINEERING OPTION: At least two courses from one of the following specialization areas: Communications Systems, Control Systems, Digital Signal Processing, Digital Systems, Electronics, and Optical Communications Systems. In addition, each student, with the approval of his graduate committee, will select three courses from the following list:

- EEL 6371 Amplifier Design 3 hours
- EEL 5173 Signal and System Analysis 3 hours
- EEL 5442 Random Processes 3 hours
- ECM 5805 Software Engineering I 3 hours
- EEL 5365 Introduction to Digital Systems 3 hours
- EEL 5441 Coherent Optics Applications 3 hours
- EEL 6530 Communications Systems Design 3 hours

3. ENGINEERING MATHEMATICS AND COMPUTER SYSTEMS OPTION: The core requirements for all students will be met by the following courses.

- EEL 5365 Introduction to Digital Systems 3 hours
- EEL 6349 Computer Systems Design 3 hours
- ECM 5135 Engineering Math Analysis I 3 hours
- ECM 6235 Engineering Math Analysis II 3 hours
- ECM 5505 Micro Computer Systems 3 hours
- ECM 5805 Software Engineering I 3 hours

4. ENVIRONMENTAL ENGINEERING OPTION: The student will take the following Environmental Engineering Core and Specialty Courses.

- ENV 5615 Environmental Impact Assessment 3 hours
- ENV 5625 Water Resources Engineering 3 hours
- ENV 6015 Physical/Chemical Treatment Systems 3 hours
- ENV 6016 Biological Treatment Systems 3 hours
- ENV 6017 Unit Operations and Processes Laboratory 2 hours
- ENV 6106 Atmospheric Pollution Control 3 hours
- ENV 6518 Industrial Waste Treatment 3 hours

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5. INDUSTRIAL ENGINEERING OPTION: The core requirements for all students will be met by the following courses.

- EIN 6357 Engineering Economics Analysis 3 hours
- STA 5156 Probability and Statistics for Engineers 4 hours
- ESI 6316 Operations Research 4 hours
- EIN 6140 Project Engineering 3 hours
- ECM 6416 Discrete System Simulation 3 hours

Total 17 hours

6. MECHANICAL ENGINEERING OPTION: The core requirement for all students will be met by the courses listed:

- CES 5102 Intermediate Mechanics of Materials 3 hours
- EML 5271 Intermediate Dynamics 3 hours
- EML 6154 Conduction Heat Transfer 3 hours
- EML 6155 Convection Heat Transfer 3 hours
- EML 6157 Radiation Heat Transfer 3 hours
- EML 6530 Principles of Design 3 hours
- EML 6710 Gas Dynamics 3 hours
- EML 6712 Mechanics of Viscous Flow 3 hours

Total 15 hours

MASTER OF SCIENCE
Program Coordinator: B. Mathews, EN 211, Phone 275-2156

This graduate program is designed to provide the competent student in engineering or other selected fields an opportunity to specialize in a particular subject area within engineering. Normally this objective may be attained through the satisfactory completion of graduate-level course work and research endeavor.

Admissions Requirements
1. University Admission Requirements
(See pages 41-43)
2. Program Admission Requirements
(See page 157 for College Admission Requirements)

Degree Requirements
1. University Graduate Policies and Procedures
Graduate Studies section of this bulletin and the current UCF Graduate Procedures Manual, available in the Office of the Program Coordinator.
2. Prerequisites: Baccalaureate credentials appropriate to the specialized area of study.
3. Required Courses 16-20 hours
4. Restricted Electives: Additional advanced mathematics (beyond MAC 3313), computer systems, natural sciences, engineering sciences, or appropriate supportive areas. 8 hours
5. Thesis or Research Report: 6 or 3 hours
6. Examinations: Oral defense of thesis or research report is required. Satisfactory completion of a comprehensive examination may be required.

Total Semester Hours Required
(M.S. Program) 30

MASTER OF SCIENCE IN ENVIRONMENTAL SYSTEMS MANAGEMENT
Program Coordinator: B. Mathews, EN 211, Phone 275-2156

The College of Engineering offers graduate work leading to the Master of Science in Environmental Systems Management. The program is designed to provide for advanced professional and specialized education in selected areas of engineering and science related to the management and control of our natural environment.
The program provides for the preparation of engineering specialists for service in environmental related occupations by allowing concentrated study in a limited number of subdisciplines. The program is open to those who have closely related to the environmental sciences and environmental or systems engineering.

Admission Requirements
1. University Admission Requirements
   (See pages 41-43)
2. Program Admission Requirements
   (See page 157 for College Admission Requirements)

Degree Requirements
Degree requirements vary depending upon student interests and background. Interested students should consult the chairman of the Civil Engineering and Environmental Sciences Department.

Total Semester Hours Required 30

DOCTOR OF PHILOSOPHY DEGREE

The College of Engineering is participating in a Cooperative Doctoral program in Electrical Engineering with the University of Florida. Interested students should consult with the chairman of the Electrical Engineering and Communication Sciences Department.
COLLEGE OF HEALTH

UNDERGRADUATE PROGRAMS
- Communicative Disorders (BA)
- Medical Record Administration (BS)
- Medical Technology (BS)
- Nursing (BS)
- Radiologic Sciences (BS)
- Respiratory Therapy (BS)

GRADUATE PROGRAM
- Communicative Disorders (MA)

OTHER PROGRAMS
- Pre-Occupational Therapy
- Pre-Physical Therapy

COLLEGE OF HEALTH

Dean: O. Elder, Jr., BL 329, Phone 275-2406
Assistant Dean: T. Mendenhall, BL 306, Phone 275-2741

To meet the needs of students and the community the College of Health was established in 1978. Included in the College are programs in Communicative Disorders, Medical Record Administration, Medical Technology, Nursing, Radiologic Sciences, and Respiratory Therapy. In addition to the six degree programs the College offers a core area of Health Sciences to broaden the student's understanding of the health care system as well as provide counseling in pre-physical and pre-occupational therapy. The College believes that through a liberal arts education and an intensive study in a specific health related area a graduate will be a valuable asset to health care in the nation as well as Florida.

General Requirements For The Bachelors Degree

All programs in the College of Health are limited access programs. Applications to a limited access program must be completed before March 1 preceding the semester in which the student plans to begin the limited access program. Before acceptance a student must have completed a suitable background of course work and have accomplished a minimum grade point average of 2.5.

In addition to University and program requirements each student in a limited access program in the College of Health will be required to complete the following:
1. HSC 3328 U.S. Health Care Systems
2. HSC 4101 Organization and Management for Health Agencies

COMMUNICATIVE DISORDERS

Interim Director: D. Bradley, CB 117, Phone 275-2121
Faculty: Buckman, Ingram, Mullin

The primary goal of the Communicative Disorders program is the preparation of clinical specialists in Speech and Language Pathology and Audiology. The undergraduate offerings are consistent with the philosophies of the American Speech and Hearing Association in that most of the course work is designed to give the student the theoretical foundations on which to build competent clinical skills. An on campus clinic as well as external affiliations including area public schools, community speech and hearing centers, hospital clinics, physicians offices, industrial settings and a mobile diagnostic unit are available for the development of various clinical competencies.
MINOR
The Program of Communicative Disorders offers a minor in Communicative Disorders consisting of a minimum of 21 semester hours.
Required courses: SPA 3001, 4030, 4201, 4402, 4210, and LIN 3710.

BACHELOR OF ARTS: COMMUNICATIVE DISORDERS

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college and/or department requirements
   (See page 157)
3. Required Courses
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>SPA 3001</td>
<td>Introduction to Communicative Disorders</td>
<td>3 hours</td>
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<tr>
<td>LIN 3710</td>
<td>Biolinguistics</td>
<td>3 hours</td>
</tr>
<tr>
<td>SPA 2112</td>
<td>Basic Phonetics</td>
<td>4 hours</td>
</tr>
<tr>
<td>SPA 3101</td>
<td>Physical Bases of Speech and Hearing</td>
<td>4 hours</td>
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<tr>
<td>SPA 4030</td>
<td>Basic Audiology</td>
<td>4 hours</td>
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<tr>
<td>SPA 3550</td>
<td>Clinical Methods</td>
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<tr>
<td>SPA 4201</td>
<td>Communicative Disorders-Articulation</td>
<td>4 hours</td>
</tr>
<tr>
<td>SPA 4402</td>
<td>Communicative Disorders-Language</td>
<td>4 hours</td>
</tr>
<tr>
<td>SPA 4210</td>
<td>Communicative Disorders-Voice</td>
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</tr>
<tr>
<td>SPA 4222</td>
<td>Communicative Disorders-Stuttering</td>
<td>4 hours</td>
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<tr>
<td>SPA 3052</td>
<td>Clinical Observation &amp; Practice</td>
<td>2 hours</td>
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<tr>
<td>SPA 4552</td>
<td>Differential Diagnosis in Communicative Disorders</td>
<td>4 hours</td>
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<tr>
<td>SPA 4323</td>
<td>Aural Habilitation</td>
<td>4 hours</td>
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<tr>
<td>SPA 4250</td>
<td>Organic Speech Disorders</td>
<td>4 hours</td>
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</table>

4. Restricted Electives
5. Electives
   | Total Semester Hours Required | 128 |

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**PROGRAM IN HEALTH SCIENCES**  
Director: T. Mendenhall, BL 306, Phone 275-2741  
Faculty: Bergner, Elder

The Health Sciences program provides several courses to broaden the student's understanding of health care and provide counseling in pre-physical and pre-occupational therapy.

**MINOR**  
The Program of Health Sciences offers a minor consisting of a minimum of 16 semester hours.

Required Courses: HSC 3328, 3081, and 4101; a minimum of 7 hours of upper division courses in the College of Health (College of Health majors may not count courses presently required of a College program).

**PROGRAM IN MEDICAL RECORD ADMINISTRATION**  
Director: L. Kuypers, BL 308, Phone 275-2741  
Faculty: Barr

The Medical Record Administrator is the professional member of the modern health care team responsible for: (1) the acquisition and supervision of complete medical records on each patient, (2) design and management of health information systems which collect, process, store, retrieve, and release health information and statistics, (3) assistance to administration, other health professionals and medical staff in developing quality assurance programs by abstraction of medical data, preparation of statistical reports, and analysis of information, and (4) assistance in collection and analysis of data for public health services planning.

The curriculum of the Medical Record Administration program is approved by the Committee on Allied Health Education and Accreditation of the American Medical Association in collaboration with the Council on Education of the American Medical Record Association.

Before applying to the professional phase of the program, students are advised to have completed courses in biology, anatomy with lab, physiology with lab, statistics, an introduction to data processing, and microbiology.

Personal qualifications include a keen intellect, initiative and organization, and above average ability for standards of accuracy and detail. Communication skills as well as diplomacy and tact in dealing with people are desirable assets.

Application and acceptance to the University does not constitute admission to the program. Separate application must be made directly to the MBA program prior to March 1 of the year in which prerequisites will have been met to be considered an applicant. A cumulative grade point average of 2.5 or better and a minimum grade of C in the prerequisite courses is required for admission to the upper division MRA program. A personal interview is also a requirement. Students must earn a minimum grade of C in all required courses to graduate.

Upon completion of the approved program, the student is eligible to take the national examination administered by the American Medical Record Association to qualify as a Registered Record Administrator.

**BACHELOR OF SCIENCE: MEDICAL RECORD ADMINISTRATION**

Degree Requirements

1. University graduation requirements  
   (See pages 41-43)

2. Special college and/or department requirements  
   (See pages 173 & 175)

3. Required Courses  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>APB 3600</td>
<td>Introduction to Pharmacology</td>
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<tr>
<td>CAP 4401</td>
<td>Health Information Computer Systems</td>
<td>3</td>
</tr>
<tr>
<td>COM 3110</td>
<td>Business and Professional Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENC 3210</td>
<td>Professional Report Writing I</td>
<td>3</td>
</tr>
<tr>
<td>GEB 3004</td>
<td>Management</td>
<td>3</td>
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<tr>
<td>HSC 3152</td>
<td>Health Law</td>
<td>3</td>
</tr>
</tbody>
</table>

175
4. Restricted Electives: None
5. Electives: None

Total Semester Hours Required 129

PROGRAM IN MEDICAL TECHNOLOGY
Director: M. Kangalos, BL 303, Phone 275-2741
Faculty: Heinsohn

The medical technologist is involved in medical diagnosis, treatment, surveillance, management, research, and education. He/she uses highly sophisticated equipment such as electronic cell counters, automated analyzers, computers, and microscopes in the examination of body tissues and fluids.

The curriculum is designed to give students a thorough background in the physical and biological sciences; to develop the understanding, skills and abilities essential to assume leadership roles in management and education; to develop high level of proficiency in the clinical laboratory and to develop an awareness for continuing education needed for professional growth.

Admission to the University does not constitute admission to the upper division Medical Technology Program. Separate application must be made through the Medical Technology Office prior to March 1 of the year for which admission is sought. An applicant must meet the following requirements to be considered for this upper division program; (1) a minimum overall grade point average of 2.5, (2) a minimum grade of C in all major and prerequisite courses. A minimum grade of a C in all major courses is required for continuation in the program.

The degree in Medical Technology will be awarded upon completion of the University’s didactic program and the clinical program in an affiliated hospital.

Upon receiving the degree in Medical Technology, the graduate will be eligible to write a national certification examination and the State of Florida licensure examination.

BACHELOR OF SCIENCE: MEDICAL TECHNOLOGY

Degree Requirements
1. University graduation requirements
   (See pages 41-43)
2. Special college requirements
   (See pages 173 & 176)
3. Required Courses
   BSC 1010C Basic Biology 4 hours
   MCB 2013C General Microbiology 4 hours
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tr>
<td>MCB 3203C</td>
<td>Pathogenic Microbiology</td>
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<tr>
<td>PCB 3233</td>
<td>Immunology</td>
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<tr>
<td>PCB 3703C</td>
<td>Human Physiology</td>
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<td>CHM 2045, 2046</td>
<td>Chemistry Fundamentals I &amp; II</td>
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<td>CHM 2046L</td>
<td>Chemistry Fundamental Laboratory</td>
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<td>CHM 3121C</td>
<td>Analytical Chemistry</td>
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<tr>
<td>CHM 2205</td>
<td>Introduction to Organic and Biochemistry</td>
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<td>MAC 1104</td>
<td>College Algebra</td>
<td>3</td>
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<tr>
<td>STA 3023</td>
<td>Fundamentals of Probability and Statistics</td>
<td>3</td>
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<tr>
<td>CAP 3001</td>
<td>Computer Fundamentals for Business Applications I</td>
<td>3</td>
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<tr>
<td>MLS 3220</td>
<td>Techniques in Clinical Microscopy</td>
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<td>MLS 3305</td>
<td>Hematology</td>
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<td>MLS 4830C, 4831C, 4832C, 4833C, 4834C, 4434</td>
<td>Clinical Practice I, II, III, IV, &amp; V</td>
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<td>MLS 4405</td>
<td>Clinical Pathogenic Microbiology</td>
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<tr>
<td>MLS 4625C, 4630C</td>
<td>Advanced Clinical Chemistry I &amp; II</td>
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<tr>
<td>MLS 4450</td>
<td>Clinical Immunohematology</td>
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<tr>
<td>MLS 4420C</td>
<td>Clinical Mycology</td>
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<tr>
<td>MLS 4431C</td>
<td>Clinical Parasitology</td>
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<td>MLS 4511</td>
<td>Clinical Serology</td>
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<tr>
<td>MLS 4213C</td>
<td>Body Fluids</td>
<td>2</td>
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<tr>
<td>MLS 4910</td>
<td>Clinical Research Project</td>
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</tr>
<tr>
<td>MLS</td>
<td>Medical Technology Seminars</td>
<td>2</td>
</tr>
</tbody>
</table>

4. Restricted Electives: None
5. Electives: None

Total Semester Hours Required: 132

**NURSING PROGRAM**

**Program Director:** L. Eldredge, BL 103, Phone 275-2744  
**Faculty:** Brinson, Conness, Chase, Dorner, Green, Gordon, Martin, Smith

The practice of professional nursing requires a minimum of baccalaureate education; the nursing program at UCF leads to a BSN degree. The professional provides high level nursing care and in collaboration with other members of the health professions, is able to plan for and deliver comprehensive health care. The professional nurse functions as a nurse-generalist with the ability to assume primary care performance in clinical nursing; health maintenance and preventive teaching; as well as the ability to gradually assume the leadership role. The baccalaureate program provides the foundation for graduate study in nursing.

The objectives are to plan learning experiences that will stimulate the student to analytical thinking, self-directiveness and to be responsible for his/her own decisions and actions.

Acceptance to the registration at the University does not constitute admission to the upper division nursing major. Separate application must be made directly to the nursing program’s office prior to March 1 of the year in which the prerequisites have been met, to be considered an applicant. A minimum grade point average of 2.5 and a minimum grade of a C in the major and prerequisite courses is required for admission and continuation in the upper division nursing major.

Special consideration and individual evaluation will be made for all R.N.’s. However, completion of the A.A. degree or the General Education Program is strongly recommended.

**BACHELOR OF SCIENCE: NURSING**

**Degree Requirements**

1. University graduation requirements  
   (See pages 41-43)
2. Special college requirements  
   (See pages 173 & 177)
3. Required Courses

*MAC 1104  College Algebra  3 hours
*STA 2014  Principles of Statistics  3 hours
*BSC 1010C  Basic Biology  4 hours
*MCB 2013C  General Microbiology  4 hours
*ZOO 3733C  Human Anatomy  4 hours
*PCB 3703C  General Microbiology  4 hours
*CHM 1034  General Chemistry (Fundamentals)  3 hours
*CHM 2205  Introductory to Organic and Biochemistry  5 hours
SOW 3104  Human Growth and Development

or

DEP 3004  Developmental Psychology  3 hours
HUN 3011  Human Nutrition  3 hours
NUU 3111  Introduction to Baccalaureate Nursing  1 hour
NUR 3618C  Concepts Basic to Nursing Practice  9 hours
NUR 3725C  Pathophysiology and Physical Assessment  4 hours
NUR 3207C, 3134C, 4411C, NUU 4225C  Scientific Theories of Nursing I, II, III, & IV  35 hours
NUR 3208, 3135, 4412, NUU 4226  Nursing Seminar I, II, III & IV  4 hours
NUR 4680  Special Nursing Topics  3 hours
NUR 4905C  Nursing Independent Study  3 hours
NUU 4300  Critical Inquiry  2 hours

4. Restricted Electives: None
5. Electives: None

Total Semester Hours Required 128

*Required prior to admission to the professional phase of the baccalaureate nursing program.
**PROGRAM IN RADIOLOGIC SCIENCES**  
**Director:** M. Jo. Geren-Edwards, SC 232, Phone 275-2747  
**Faculty:** Bosmeny, Edwards, Ill

The baccalaureate radiologic science program is designed to provide the graduate with radiography skills, extended in-depth education in the radiologic sciences, and management and instructional skills. Graduates are capable of assuming leadership roles in the community as radiographers, radiologic educators, program directors and department administrators, as well as quality assurance coordinators.

Radiologic Technologists (radiographers) are integral members of a team dedicated to patient care. Their primary role is to perform the technical procedures in producing X-ray studies for the diagnosis and treatment of disease and injury.

The program is approved by the Committees on Allied Health Education and Accreditation of the American Medical Association. Graduates are eligible to take the national certifying examination administered by the American Registry of Radiologic Technologists.

Application deadline is March 1 for acceptance into the upper division which begins with Summer semester.

**BACHELOR OF SCIENCE: RADIOLOGIC SCIENCES**

**Degree Requirements**

1. University graduation requirements  
(See pages 41-43)

2. Special college requirements  
(See pages 173 & 179)

3. Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BSC 1010C</td>
<td>Basic Biology</td>
<td>4</td>
</tr>
<tr>
<td>CPA 3001</td>
<td>Computer Fundamentals for Business Applications I</td>
<td>3</td>
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<td>MAC 1104</td>
<td>College Algebra</td>
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<td>PHY 2050C, 2051C</td>
<td>College Physics I &amp; II</td>
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<td>RTE 2002</td>
<td>Fundamentals of Radiologic Technology</td>
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<td>RTE 3831</td>
<td>Clinical Education Orientation</td>
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<td>RTE 3806</td>
<td>Clinical Education II</td>
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<td>Clinical Education III</td>
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<td>Radiographic Procedures I</td>
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<td>RTE 3549</td>
<td>Radiographic Procedures II</td>
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<td>Fundamentals of Medicine I</td>
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<td>RTE 3156</td>
<td>Pathophysiology</td>
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<td>RTE 3684C</td>
<td>Physics of Image Production</td>
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<td>RTE 3387</td>
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<td>RTE 4876</td>
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<td>RTE 4843</td>
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<td>RTE 4569</td>
<td>Imaging in Diagnostic Radiography</td>
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<tr>
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<td>Quality Assurance Management</td>
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<tr>
<td>RTE 4935</td>
<td>Radiologic Science Seminar</td>
<td>1</td>
</tr>
<tr>
<td>STA 3023</td>
<td>Fundamentals of Probability &amp; Statistics</td>
<td>3</td>
</tr>
<tr>
<td>ZOO 3733C</td>
<td>Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>PCB 3703C</td>
<td>Human Physiology</td>
<td>4</td>
</tr>
</tbody>
</table>

4. Restricted Electives  
Option I—Group A (all courses)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ACC 2001</td>
<td>Principles of Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>MAN 3010</td>
<td>Management &amp; Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>RTE 4207</td>
<td>Quantitative Methods of Radiology Management</td>
<td>2</td>
</tr>
<tr>
<td>RTE 4209</td>
<td>Radiological Administrative Practice</td>
<td>4</td>
</tr>
</tbody>
</table>
### PROGRAM IN RESPIRATORY THERAPY

**Director:** J. Stephen Lytle, SC 226, Phone 275-2748  
**Faculty:** Douglass, Johnson, Worrell  
**Medical Director:** Robert Snyder

Respiratory Therapy is one of the newest and fastest growing of the health professions. The field over the past thirty years has grown from the days of oxygen tents and iron lungs to the high level technology that modern respiratory therapists see today. Today's respiratory therapist provides a variety of services within the hospital. Emergency resuscitation using external heart massage and artificial respiration is one of the therapist's most important functions. The therapist serves as an important medical team member in such emergencies as heart attacks, near-drownings, shock, and automobile accidents. The therapist may also perform diagnostic pulmonary function tests and arterial blood gas analysis to aid the physician in his diagnosis of respiratory disease. Oxygen administration, the delivery of aerosol medicators, humidity therapy, administration of positive pressure breathing, and rehabilitation of patients with chronic respiratory diseases are also among the duties of the respiratory therapist. One of the therapist's most challenging roles involves working with the critically ill patient. With the advent of sophisticated medical research, surgical techniques, and technology, the need for qualified respiratory therapists has grown tremendously. Therapists are also actively involved in the care of premature infants with respiratory diseases.

Acceptance at the University does not constitute admission to the upper division program. Separate application must be made directly to the program office prior to March 1 of the year in which the prerequisites have been met, to be considered an applicant. A minimum grade point average of 2.5 and a minimum grade of a C in the major and prerequisite courses is required for admission and continuation in the upper division. Students must complete the following course work before entering the upper division program in the Fall of the junior year.

The Respiratory Therapy Program is accredited by the American Medical Association in collaboration with the Joint Review Committee for Respiratory Therapy Education.

### BACHELOR OF SCIENCE: RESPIRATORY THERAPY

#### Degree Requirements

1. University graduation requirements  
   (See pages 41-43)  
2. Special college requirements  
   (See pages 173 & 180)  
3. Required Courses (General education requirements for the lower division A.A. degree or completion of the basic General Education Program requirements at the University of Central Florida.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BSC 1010C</td>
<td>Basic Biology</td>
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<tr>
<td>MCB 2013C</td>
<td>General Microbiology</td>
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<tr>
<td>ZOO 3722C</td>
<td>Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>PCB 3703C</td>
<td>Human Physiology</td>
<td>4</td>
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<td>CHM 1034</td>
<td>General Chemistry</td>
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### Option II*—Group A (all courses)

<table>
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<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVT 3062</td>
<td>Professional Role of the Vocational Teacher</td>
<td>3</td>
</tr>
<tr>
<td>EVT 3371</td>
<td>Essential Teaching Skills in Vocational Education</td>
<td>3</td>
</tr>
<tr>
<td>RTE 4253</td>
<td>Curriculum Planning in Radiologic Technology</td>
<td>2</td>
</tr>
<tr>
<td>RTE 4256</td>
<td>Analysis of Instruction in Radiologic Technology</td>
<td>3</td>
</tr>
<tr>
<td>RTE 4256L</td>
<td>Directed Clinical Study in Education</td>
<td>1</td>
</tr>
</tbody>
</table>

*Required for Florida Teaching Certification

5. Electives: None

Total Semester Hours Required: 130
4. Restricted Electives
Electives to be selected with the advisor from the following courses:
RET 4284 Cardiopulmonary Diagnostics 3 hours
RET 4616 Cardiopulmonary Services 2 hours
EVT 3062 Principles of Vocational Technical Education 3 hours
PCB 3233C Immunology and Serology 4 hours
RET 4262 Neonatal Life Support 2 hours
RET 4104 Respiratory Therapy Education Systems 2 hours
Medical Electronics (Engineering) 3 hours
CAP 3002 Business Applications Programming 3 hours
Research Project 1-6 hours
Independent Study 1-6 hours

5. Electives: None

Total Semester Hours Required 129

COLLEGE OF HEALTH GRADUATE PROGRAMS

MASTER OF ARTS: COMMUNICATIVE DISORDERS

Program Coordinator: D. Bradley, CB 117, Phone 275-2121

Professional education is offered in Communicative Disorders leading to the Master of Arts degree in either Speech/Language Pathology or Audiology. The program requires the equivalent of two years of full-time attendance to complete and is designed to meet the certification requirements of the American Speech/Language and Hearing Association for the Certificate of Clinical Competence.

The faculty is keenly aware of the need for combining clinical skills with theoretical foundations. Supervised student practica are offered in the Communicative Disorders Clinic on campus as well as in external settings. Selected outstanding professionals in
Central Florida (physicians, speech/language pathologists, audiologists) make up the clinical faculty which supplement the clinical expertise of the regular faculty.

Admission Requirements
1. University Admission Requirements
(See pages 41-43)
2. Program Admission Requirements
   a. To be considered for admission, applicants must submit: a quantitative verbal GRE score dating from no longer than 5 years previous to application for admission.
   b. Three letters of recommendation.
   c. A personal interview is suggested when possible.

Degree Requirements
1. University Graduate Policies and Procedures
   See the current U.C.F. Graduate Procedures Manual, available in the Office of Graduate Studies.
2. Prerequisites: B.A. in Speech and Hearing (Communicative Disorders) or special prerequisite courses to be arranged with the program coordinator. Applicants whose native language is not English must have a TOEFL score of 500 or better.
3. Required Courses: The following courses are required.
   - SPA 5937 ST: Therapeutic Communication 3 hours
   - SPC 6219 Modern Communication Theory 3 hours
   - COM 6300 Intro to Graduate Study in Communication 3 hours
   - COM 6312 Research Methods 3 hours
4. Restricted Electives:
   Students will select one course in the "Systems" sub-specialty (a) and one course in the "Legal" sub-specialty (b).
   a. SPA 6938 ST: Advanced Clinical/Diagnostic Procedures 3 hours
   - SPA 6345 Auditory Amplification 3 hours
   b. SPA 5556 Communicative Disorders in Public Schools 3 hours
   - SPA 6354 Industrial Audiology 3 hours
   A grade of B or better must be obtained in each required course.

   All advanced course work (24 semester hours) and clinical experience needed in preparing the student to function as a professional practitioner are included in this section of the curriculum. Examples are courses that provide in-depth knowledge of communication processes, their development, and disorders associated with them. Evaluation procedures for specific disorders, clinical techniques for improving disorders, and knowledge of instrumentation are studied in advanced courses. Each stu-
dent will select courses in this category with the approval of the advisor.

5. THESIS REQUIREMENT (4 semester hours)
   Each student will choose to complete a thesis or select the non-thesis option. The thesis students will complete a research study in the area of Speech/Language Pathology or Audiology for 4 semester hours of credit. The non-thesis students will complete 2 semester hours of directed independent research and a 2 semester hour clinical project. The thesis students will work with a graduate committee composed of three faculty members while the non-thesis students may work with only one faculty member.

6. EXAMINATIONS:
   An end-of-program (final) comprehensive examination on course work is required. This examination must be passed before a student can be considered a degree candidate. An oral defense of the thesis is required for those students choosing the thesis option.

Total Semester Hours Required 45

COLLEGE OF EXTENDED STUDIES
Dean: John B. O'Hara, AD 397, Phone 275-2123

The College of Extended Studies was established to develop, coordinate and implement the University's programs of extension, outreach and continuing education functions. Toward this objective, the primary purpose is to provide educational services to Florida citizens through the several academic colleges of the University. Additionally, a second purpose is to provide lifelong learning opportunities by utilizing University resources to benefit nontraditional as well as traditional learners.

The College of Extended Studies is responsible for noncredit and sponsored credit institute programs. These programs include short courses, inservice training, conferences, seminars, institutes, special training programs and workshops. Educational courses may be conducted in cooperation with outside agencies. Non-credit programs are organized for the general public for which Continuing Education Units (CEU) may be earned and used to recognize the individual's participation in the program. All activities offered are designed to assist the individual in lifelong development and to satisfy the needs of business, professional, government, service, civic organizations and groups.

Nontraditional and diverse methods are utilized in working with adult learners. Nontraditional students are brought together through common experiences, needs and objectives. Through the use of qualified and recognized experts, learning resources and life experiences, acceptable levels of skills and knowledges are taught to enrich the learner's experience and to gain new abilities and professional qualifications. Nontraditional methods may also be used to facilitate individual learning, that is, self-paced instruction on both an individual or group basis. The basic purpose is the acquisition of new abilities and knowledge, on the part of the learner, to gain personal fulfillment and to improve employment status.

Suggestions and recommendations regarding possible program offerings in a continuing effort to respond to community concerns are welcome. Current program information may be obtained by contacting the College of Extended Studies, Administration Building 397, University of Central Florida, P. O. Box 25,000, Orlando, Florida 32816. Telephone (305) 375-2123.

COLLEGE OF UNDERGRADUATE STUDIES
Dean: Charles N. Micarelli, AD 217, Phone 275-2691
Associate Dean: Paul R. McQuilkin, AD 215, Phone 275-2691
Assistant Dean: Carol C. Bledsoe, AD 213, Phone 275-2691

The office of Undergraduate Studies was established in July, 1980, to assist in the development of University-wide academic programs and to assist undergraduate students in the pursuit of their academic goals.

The activities in which Undergraduate Studies is involved are as follows: recruitment, admissions, the general education program, placement examinations, proficiency
requirements, credit by examination policies, development of an honors program, inter-
college programs, academic skills services, academic advisement, reviewing student
problems in such areas as class schedules and withdrawals, admissions and standards
policies through the Academic Standards Committee and improving teaching condi-
tions through the Learning Resource Council.

The Office of Undergraduate Studies also oversees the University's Admissions, High
School and Community College Relations, Academic Skills Center, Army and Air Force
ROTC programs, and the Office of Minority Student Services. Those programs are
described below.

ACADEMIC SKILLS CENTER

Mary Hartman, Phone 275-2811

The Academic Skills Center is open every day from 9:00 A.M. until 4:00 P.M. to offer
assistance in English grammar, spelling, English as a second language, speed reading,
reading comprehension, arithmetic and algebra skills, and study skills. Each program is
conducted as an independent study and meeting time is arranged at the student's con-
venience. All work is free to any enrolled student. The center will also offer programs for
students who are preparing to take examinations for entrance to graduate school.

AEROSPACE STUDIES

Chairman: F. V. Kimberly, CB 310, Phone 275-2264
Faculty: White, Merritt, Korose

The Department of Aerospace Studies provides pre-commissioning education for
qualified students who desire to serve as commissioned officers in the active duty Air
Force. The department offers both the four-year and two-year Air Force ROTC pro-
grams. The four-year program provides on-campus study during the freshman through
senior years. The two-year program allows community college transfer students and
other students with two academic years remaining in either undergraduate or graduate
status to earn an Air Force commission while completing their studies. Both programs
offer scholarships for selected students. Students are invited to write or visit the Depart-
ment of Aerospace Studies to obtain additional information.

CURRICULUM

Students enrolled in the Air Force ROTC program may major in any academic disci-
pline and earn a minor in Aerospace Studies. A major is not offered by this department.
AFROTC courses are listed under the prefix AFR. The curriculum is divided into two
phases:

1. General Military Course (GMC)
   The General Military Course of the freshman and sophomore courses for students in
   the four-year AFROTC program. These courses deal with the mission, organization,
   and structure of the U.S. Air Force, and the development of air power into a prime ele-
   ment of American national security.

2. Professional Officer Course (POC)
   The Professional Officer Course consists of Aerospace Studies offered during the
   junior and senior years. The POC must be completed by all students who seek a com-
   mission through the Air Force ROTC. The curriculum involves the study of concepts of
   leadership and management in the Air Force and an analysis of the formulation and
   implementation of American defense policy.

REQUISITE FOR ADMISSION TO THE PROFESSIONAL OFFICER COURSES

(POC)

1. Be at least 17 years of age at the time of acceptance.
2. Be able to complete the Professional Officer Course and complete all degree require-
   ments prior to reaching age 26 years and 6 months if entering Flight Training or before
   age 30 if entering non-flying Air Force specialty. (Age 35 for individuals with prior mili-
   tary service.)
3. Pass the Air Force Officer Qualifying Test.
5. Complete the application and examination process, preferably prior to January 15 of the year in which they plan to enroll.
6. Selection by the Professor of Aerospace Studies and acceptance by the University.
7. Successful completion of a summer Field Training Course.
8. Enlistment in the Air Force Reserve certifying agreement to complete the POC and accept an Air Force Commission. This enlistment is terminated upon receipt of a commission.

**MONETARY ALLOWANCE**

All students enrolled in the Professional Officer Course receive a tax-free monetary allowance of $100 per month.

**AIR FORCE ROTC SCHOLARSHIP PROGRAM**

Scholarships are available for qualified students in both the four-year and two-year AFROTC programs. These scholarships provide for full tuition, fees and required textbooks. In addition, scholarship recipients receive $100 per month.

**SUMMER TRAINING**

All students must attend a summer Field Training course conducted at an Air Force base. This course includes junior officer training, officer career orientation, and physical conditioning. Students enrolled in the four-year AFROTC program will attend a four-week summer course, normally upon completion of the General Military Course, and they will receive approximately $386. A six-week summer course, which includes a modified version of the General Military Course, is required for students entering the two-year AFROTC program. These students must complete their summer training prior to their formal enrollment in the Professional Officer Course. Students who complete the six-week course receive approximately $613.

**FLIGHT INSTRUCTION PROGRAM**

Students enrolled in the Professional Officer Course who have been selected for pilot training in the United States Air Force receive 40 hours of classroom instruction and 25 hours of civilian flight training in light aircraft.

**OFFICER COMMISSIONS**

Students who complete the Professional Officer Course are appointed Second Lieutenants in the United States Air Force Reserve. As reserve officers, they incur an obligated active duty tour of four years (non-flying) or six years (navigator) or seven years (pilot). During this period of active service, they are given the opportunity to attain career status and to obtain a regular commission in the United States Air Force.

**MINOR**

The Department of Aerospace Studies offers a minor consisting of a minimum of 16 semester hours. Required courses: AFR 1101, 1111, 2130, 2131, 3220, 3230, 4201, 4210.

**ARMY ROTC—MILITARY SCIENCE**

Chairman: A. L. Wehrle, Phone 275-2430
Faculty: Hill, Hornaday, Howard, Howell, Nash

The University of Central Florida, in cooperation with the Army ROTC Program at Stetson University provides an opportunity to acquire the skills and knowledge necessary for commissioning as a lieutenant in the U.S. Army, U.S. Army Reserve or the National Guard. The program offers both a four-year and two-year option. The two-year option allows students with at least two academic years remaining in either undergraduate or graduate studies to meet all requirements for commissioning. If you are in the Army National Guard of Army Reserve and continuing your education full time, then you may be eligible for the Army's new Simultaneous Membership Program (SMP). It lets you combine Reserve Forces duty with Army ROTC officer training courses on campus and earn about $5,000 in two years.

**CURRICULUM**

The Military Science curriculum is divided into three phases:
1. Basic Military Science

   The Basic Military Science courses are designed for four-year participants and are
normally offered during the freshman and sophomore years. These courses address military organization, equipment, weapons, map readings, land navigation, use of a compass, grade structure, the Threat, communications, and leadership.

2. Advance Military Science
   The Advanced Military Science courses are normally taken during the junior and senior years. These courses specialize in small unit tactics, how to prepare and conduct military training, military justice system, staff procedures, decision making and leadership.

3. Summer Camp
   Prior to commissioning each cadet must successfully complete an evaluation of the skills learned. This evaluation is conducted at Ft. Bragg, North Carolina during June and July. Summer Camp requirements apply only to Advanced Military Science students.

SUMMER TRAINING
   A summer training program is offered for students who are academic juniors without previous ROTC or military training. Two options are available for summer training:
   1. A five week course, on-campus
   2. A six week course at Ft. Knox, Kentucky.

   Either summer option will qualify a student for entry into the Advanced Course, thus allowing completion of all requirements for commissioning within two years. Students attending the summer course at Ft. Knox will receive approximately $500 pay for the period.

MONETARY ALLOWANCE
   All students enrolled in the Advanced Military Science Course receive a tax free monetary allowance of $100 per month.

SCHOLARSHIPS
   Scholarships are available to qualified ROTC students. These scholarships provide full tuition, fees and required textbooks. Additionally, scholarship recipients receive $100 (tax free) per month.

REQUISITES FOR ADMISSION TO THE BASIC COURSE
   1. Enrollment in a Baccalaureate or Masters degree program.
   2. 18 years of age at the time of entry but not more than 30 years of age at the time of graduation.

REQUISITES FOR ADMISSION TO THE ADVANCED COURSE
   1. Successful completion of Basic Course of equivalent.
   2. Successful completion of an Army officer qualifying test.
   3. Successful completion of an Army physical examination.
   4. Selection by the PMS.
   5. Agreement to complete the Advanced Course requirements and serve on active, reserve, or national guard duty as a commissioned officer.

MINORITY STUDENT SERVICES
   Director: Robert Belle, AD 225, Phone 275-2716
   The Office of Minority Student Services is responsible for coordinating special programs, projects, and special services for minority students. The office cooperates with existing student services in the recruitment, admission, and retention of minority students, and is responsible for monitoring and facilitating the academic progress of minority students. Minority Student Services also assists in developing cultural and social programs to enhance the development of the individual.

SCHOOL AND COMMUNITY COLLEGE RELATIONS
   School and Community College Relations has the responsibility of monitoring implementation of the Statewide Articulation Agreement, providing pre-transfer information to community college students and their counselors, and serving as liaison with community college deans, presidents, and faculty. The office annually publishes a UCF Transfer Student Counseling Manual that describes in detail lower division course requirements for each major at UCF.
CLASSIFICATION OF COURSES
The University course numbering system is as follows:
1000-2999 are freshman and sophomore level courses and are designed primarily for these students.
3000-4999 are junior and senior level courses and are designed primarily for these and other advanced students. When approved for inclusion in an individual program of graduate study by a supervisory committee approved by the Dean of Graduate studies, selected 4000-4999 courses may serve the needs of individual graduate students.
5000-5999 are beginning graduate and advanced undergraduate level courses—open to graduate students and those seniors who receive approval of the appropriate Dean(s).
6000-6999 are beginning and professional level courses open only to graduate students.

FLORIDA STATEWIDE COURSE NUMBERING SYSTEM
The course numbers appearing in the catalog are part of a statewide system of prefixes and numbers developed for use by all public postsecondary and participating private institutions in Florida. One of the major purposes of this system is to make transferring easier by identifying courses which are equivalent, no matter where they are taught in the state. All courses designated as equivalent will carry the same prefix and last three digits.

The classifying and numbering of courses was done by community college and university faculty members in each academic discipline. Their work was reviewed by faculty members in all of Florida’s postsecondary institutions who made suggestions and criticisms to be incorporated into the system.

The course numbering system is, by law, descriptive and not prescriptive. It in no way limits or controls what courses may be offered or how they are taught. It does not affect course titles or descriptions at individual schools. It seeks only to describe what is being offered in postsecondary education in Florida in a manner that is intelligible and useful to students, faculty and other interested users of the system.

The course numbering system was developed so that equivalent courses could be accepted for transfer without misunderstanding. Each public institution is to accept for transfer credit any course which carries the same prefix and last three digits as a course at the receiving institution. For example, if a student has taken SOC-000 at a community college, he cannot be required to repeat SOC-000 at the school to which he transfers. Further, credit for any course or its equivalent, as judged by the appropriate faculty task force and published in the course numbering system, which can be used by a native student to satisfy degree requirements at a state university can also be used for that purpose by a transfer student regardless of where the credit was earned.

It should be noted that a receiving institution is not precluded from using non-equivalent courses for satisfying certain requirements.

General Rule for Course Equivalencies
All undergraduate courses bearing the same alpha prefix and last three numbers (and alpha Suffix, if present) have been agreed upon to be equivalent. For example, an introductory course in sociology is offered in over 40 postsecondary institutions in Florida. Since these courses are considered to be equivalent, each one will carry the designator SOC-000.

First Digit
The first digit of the course number is assigned by the institution, generally to indicate the year it is offered—i.e., 1 indicates freshman year, 2 indicates sophomore year. In the sociology example mentioned above one school which offers the course in the freshman year will number it SOC 1000; a school offering the same course in the sophomore year will number it SOC 2000. The variance in first number does not affect the equivalency. If the prefix and last three digits are the same, the courses are substantially equivalent.
Titles
Each institution will retain its own title for each of its courses. The sociology courses mentioned above are titled at different schools "Introductory Sociology," "General Sociology," and "Principles of Sociology." The title does not affect the equivalency. The courses all carry the same prefix and last three digits; that is what identifies them as equivalent.

Lab Indicators
Some courses will carry an alpha suffix indicating a lab. The alpha suffixes "L" and "C" are used as follows to indicate laboratories:
"L" means either (a) a course, the content of which is entirely laboratory or (b) the laboratory component of a lecture-lab sequence in which the lab is offered at a different time/place from the lecture course.
"C" means a combined lecture-lab course in which the lab is offered in conjunction with the lecture at the same time/same place.

Examples:
- Marine Biology OCB-013 (lecture only)
- OCB-013L (lab only)
- Marine Biology OCB-013C (lecture & lab combined) with Lab

Therefore, OCB 013C is equivalent to OCB-013 plus OCB-013L.

An alphabetical listing of prefixes:
ACC Accounting
ADV Advertising
AFH African History
AFR Air Force ROTC
AMH American History
AML American Literature
ANT Anthropology
APB Applied Biology
ARE Art Education
ARH Art History
ART Art
ASH Asian History
AST Astronomy
BCH Biochemistry
BCN Building Construction
BOT Botany
BSC Introductory Biology
BTE Business Teacher Education
BUL Business Law
CAP Computer Applications
CBH Comparative Psychology & Animal Behavior
CCJ Criminology & Criminal Justice
CDA Computer Design/Architecture
CES Civil Engineering Structure
CHM Chemistry
CHS Chemistry-Specialized
CIS Computer & Information Systems
CJT Criminal Justice Technology
CLP Clinical Psychology
CNM Computational/ Numerical Methods
COC Computer Concepts
COM Communications
COP Computer Programming
COT Computer Theory
CPO Comparative Politics
CRM Computer Resources/ Management
CRW Creative Writing
CYP Communicative Psychology
<table>
<thead>
<tr>
<th>Code</th>
<th>Program</th>
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<tbody>
<tr>
<td>DAA</td>
<td>Dance Activities</td>
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<tr>
<td>DAE</td>
<td>Dance Education</td>
</tr>
<tr>
<td>DEP</td>
<td>Development Psychology</td>
</tr>
<tr>
<td>DHE</td>
<td>Demography &amp; Human Ecology</td>
</tr>
<tr>
<td>EAB</td>
<td>Experimental Analysis of Behavior</td>
</tr>
<tr>
<td>EAS</td>
<td>Engineering: Aerospace</td>
</tr>
<tr>
<td>EGI</td>
<td>Engineering: Civil</td>
</tr>
<tr>
<td>ECM</td>
<td>Engineering: Computer Mathematics</td>
</tr>
<tr>
<td>ECO</td>
<td>Economics</td>
</tr>
<tr>
<td>ECP</td>
<td>Economic Problems &amp; Policy</td>
</tr>
<tr>
<td>ECS</td>
<td>Economic Systems &amp; Development</td>
</tr>
<tr>
<td>EDA</td>
<td>Education: Administration</td>
</tr>
<tr>
<td>EDE</td>
<td>Education: Elementary</td>
</tr>
<tr>
<td>EDF</td>
<td>Education: Foundation</td>
</tr>
<tr>
<td>EDG</td>
<td>Education: General</td>
</tr>
<tr>
<td>EDH</td>
<td>Education: Higher</td>
</tr>
<tr>
<td>EDM</td>
<td>Education: Middle School</td>
</tr>
<tr>
<td>EDP</td>
<td>Educational Psychology</td>
</tr>
<tr>
<td>EDS</td>
<td>Education: Supervision</td>
</tr>
<tr>
<td>EEC</td>
<td>Education: Early Childhood</td>
</tr>
<tr>
<td>EED</td>
<td>Education: Emotional Disorders</td>
</tr>
<tr>
<td>EEL</td>
<td>Engineering: Electrical</td>
</tr>
<tr>
<td>EES</td>
<td>Environmental Engineering Science</td>
</tr>
<tr>
<td>EEX</td>
<td>Educational: Exceptional Child-Care Competencies</td>
</tr>
<tr>
<td>EGC</td>
<td>Guidance &amp; Counseling</td>
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<tr>
<td>EGM</td>
<td>Engineering: Mechanical</td>
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<tr>
<td>EGN</td>
<td>Engineering: General</td>
</tr>
<tr>
<td>EIN</td>
<td>Engineering: Industrial</td>
</tr>
<tr>
<td>ELD</td>
<td>Education: Specific Learning Disabilities</td>
</tr>
<tr>
<td>EMA</td>
<td>Engineering: Material</td>
</tr>
<tr>
<td>EME</td>
<td>Education: Technology &amp; Media</td>
</tr>
<tr>
<td>EML</td>
<td>Engineering: Mechanical</td>
</tr>
<tr>
<td>EMR</td>
<td>Education: Mental Retardation</td>
</tr>
<tr>
<td>ENC</td>
<td>English Composition</td>
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<td>ENG</td>
<td>English-General</td>
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<tr>
<td>ENL</td>
<td>English Literature</td>
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<tr>
<td>ENU</td>
<td>Engineering: Nuclear</td>
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<tr>
<td>ENV</td>
<td>Engineering: Environmental</td>
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<tr>
<td>ENY</td>
<td>Entomology</td>
</tr>
<tr>
<td>ESE</td>
<td>Education: Secondary</td>
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<tr>
<td>ESI</td>
<td>Engineering Systems—Industrial</td>
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<tr>
<td>ESL</td>
<td>English as a Second Language</td>
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<td>ETC</td>
<td>Engineering Tech: Civil</td>
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<td>ETE</td>
<td>Engineering Tech: Electrical</td>
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<td>ETG</td>
<td>Engineering Tech: General</td>
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<td>ETI</td>
<td>Engineering Tech: Industrial</td>
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<td>ETM</td>
<td>Engineering Tech: Mechanical</td>
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<tr>
<td>EUH</td>
<td>European History</td>
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<tr>
<td>EVI</td>
<td>Education: Visually Impaired—Blind</td>
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<tr>
<td>EVS</td>
<td>Environmental Science</td>
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<tr>
<td>EVT</td>
<td>Education: Vocational/Technical</td>
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<td>EXP</td>
<td>Experimental Psychology</td>
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<td>FIL</td>
<td>Film</td>
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<td>FIN</td>
<td>Finance</td>
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<td>FOT</td>
<td>Foreign &amp; Biblical Languages in Translation</td>
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<td>FRE</td>
<td>French Language</td>
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<td>FRW</td>
<td>French Literature (Writings)</td>
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<tr>
<td>GEB</td>
<td>General Business</td>
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<tr>
<td>GEO</td>
<td>Geography</td>
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</table>
Depending upon previous background and test scores earned, individual students may be required to complete more than the minimum number of credits required for graduation in their respective programs. Courses numbered less than 1000 (State-wide Common Course Numbers) are of subcollegiate level and may not be counted in meeting degree credit hour requirements for graduation.

**SPECIAL COURSES**

In addition to the regular courses listed in this bulletin, special courses may be available. Consult your academic advisor for details.
Directed Independent Studies
Directed Independent Research
Special Topics/Seminars
Internships, Practicums, Clinical Practice
Study Abroad
Thesis
Thesis-Specialist

These courses may be assigned variable credit. Some may be repeated upon approval.

PR: PREREQUISITE
A course in which credit must be earned prior to enrollment in the listed course.

CR: COREQUISITE
A course which must be taken concurrently with or prior to the listed course.

CI: CONSENT OF INSTRUCTOR

HOURS CODE
Each course listed is followed by a code which shows hours credit, and contact hours.

Example:
CHM 3121C AS 5(3,6)
Analytical Chemistry I: CHM 3121C carries 5 hours credit but requires 9 contact hours; 3 in class and 6 in laboratory or field work. It is scheduled to be offered in the College of Arts and Sciences.

College designation: AS = Arts and Sciences; BA = Business Administration; ED = Education; EN = Engineering; HLTH = Health; US = Undergraduate Studies.

AVAILABILITY OF COURSES
The University does not offer all of the courses listed in the catalog each year. The Class Schedule should be consulted for those courses offered each semester.

ACC 2001 BA 3(3,0)

ACC 2021 BA 3(3,0)

ACC 3003 BA 6(6,0)

ACC 3101 BA 3(3,0)
Financial Accounting I: PR: Junior standing and ACC 2021 or equivalent with a “C” or better. The accounting process, content and analysis of financial statements and framework of accounting theory.

ACC 3121 BA 3(3,0)
Financial Accounting II: PR: ACC 3101 with a grade of “C” or better. A continuation of ACC 3101.

ACC 3141 BA 3(3,0)

ACC 3301 BA 3(3,0)

ACC 3401 BA 3(3,0)
Cost Accounting I: PR: Junior standing and ACC 2021 with a grade of “C” or better. Cost concepts, cost of goods manufactured, job order process costing, standard cost, relevant cost analysis, and joint cost allocation.

ACC 3509 BA 3(3,0)
Personal Income Tax: A study of federal income tax designed to convey basic tax concepts and skills related to the individual taxpayer. Not open to ACC majors.

ACC 3812 BA 3(3,0)
Accounting for Engineers: General accounting principles and practice, cost accounting, budgeting and control techniques. Not usable for BSBA degree credit.
Financial Accounting for Governmental and Nonprofit Organizations: PR: ACC 3101, or C.I. Accounting for governments and other nonprofit organizations with emphasis on financial reporting issues and problems.

ACC 4201

ACC 4501

ACC 4501
Auditing I: PR: ACC 3121. The standards, practices and procedures followed in the audit function.

ACC 4701

ACC 5004

ACC 5231

ACC 5341
Cost Accounting II: PR: ACC 3401, FIN 3403, ECO 3411 or C.I. Continuation of ACC 3401. Spoilage and waste, capital budgeting and analysis, EOQ analysis, decentralization, quantitative decision analysis.

ACC 5531

ACC 5831
Auditing II: PR: ACC 4601, ACC 4701, STA 3023. A continuation of ACC 4601.

ACC 5885
Managerial Accounting for Governmental and Nonprofit Organizations: PR: ACC 3861 or C.I. Study of problems and methods of applying managerial accounting concepts in a nonprofit environment.

ACC 6411
Cost Accounting III: PR: Graduate standing and all foundation courses or equivalents. Cost analysis for management decisions.

ACC 6511
Federal Income Tax III: PR: Graduate standing and all foundation courses or equivalents. Advanced study of and research in tax law with emphasis on business, estate and gift taxes.

ACC 6611
Auditing III: PR: Graduate standing and all foundation courses or equivalents. The study of selected auditing topics.

ACC 6734
Accounting Analysis: PR: Graduate standing and ACC 5004 or one year of accounting and ECO 5413. (Not open for accounting majors.) Accounting as an information measurement system for internal planning and control.

ACC 6735
Systems II: PR: Graduate standing and all foundation courses or equivalents. Design and analysis of information systems and special topics.

ACC 6745
Accounting Control Systems: PR: Graduate standing and all foundation courses or equivalents. An integrative course designed to provide a systematic approach to the integration of financial accounting, managerial accounting, taxation, and general business courses.

ACC 6805
Accounting Theory: PR: Graduate standing and all of foundation courses or equivalents. An examination of the evolution of contemporary accounting theory with emphasis on current and future developments.

ACC 6810
Professional Accountancy Practice: PR: Graduate standing and all foundation courses or equivalents. Study of formation and the operation of a professional accountancy practice.

ACC 6866
Professional Accounting Issues: PR: Graduate standing and all foundation courses or equivalents. An examination of current issues confronting the accounting profession.
The capabilities of the Air Force have evolved since the founding of the United States. The role of the Air Force in American society is critical, as it is the primary weapon system of the United States. The Air Force is responsible for the protection of individual rights and the implementation and its impact on the decision making process. A study of the basic leadership skills and military justice system and its relationship to the decision making process.

**AFR 1101**
The United States Air Force and Strategic Offensive-Defensive Forces: PR: Qualification for Air Force ROTC or permission of Professor of Aerospace Studies. History, mission, organization and doctrine of the United States Air Force and a study of U.S. Strategic Offensive and Defensive Forces.

**AFR 1111**
Conventional Military Forces: PR: AFR 1101 or permission of Professor of Aerospace Studies. A brief review of the Army, Navy, and Marine forces. An introduction to special operations and counter-insurgency.

**AFR 2130**
The Development of Airpower: AFR 1111 or approval of the PAS. A study of the development of airpower from experiments by 16th century balloonists to the achievement of combat airpower capabilities during World War II.

**AFR 2131**
The Aerospace Age: PR: AFR 2130 or approval of PAS. A study of the development of aerospace capabilities since World War II, highlighting technological advancements and the role of aerospace power in the contemporary world.

**AFR 3220**
Air Force Management and Leadership: PR: GMC or Two-Year Program Selection and/or approval of the PAS. An introductory study of Air Force management fundamentals, communications skills and basic leadership styles.

**AFR 3230**
Air Force Management and Evaluation: PR: AFR 3220 or approval of the PAS. A concluding study of Air Force management fundamentals including performance evaluation skills.

**AFR 4201**
Societal Role and Defense Strategy: PR: AFR 3230 or approval of PAS. Examination of the military and its role in American society. A study of the framework and formation of defense strategy.

**AFR 4210**

**AFR 4240**
Introduction to Flight (Pilot): PR: AFR 3220, 3230 and/or permission of the Professor of Aerospace Studies. An academic, introductory study of FAA regulations, weather, navigation and aircraft components, systems and performance.

**AMH 2010**
U.S. History: 1492-1877: Survey of U.S. history from 1492-1877.
AMH 2020
U.S. History: 1865-Present: Survey of U.S. history from 1865 to the present.

AMH 3370
American Economic History: PR: AMH 2010 and 2020 or C.I. An introduction to the economic development of the U.S. with emphasis on agriculture, labor, industrialization, transportation and banking.

AMH 3402
History of the South to 1865: PR: AMH 2010 and 2020 or C.I. Development of the southern colonies, beginning on sectionalism, the cotton economy, slavery. Calhoun's constitutional theories, secession, Civil War and its aftermath.

AMH 3403
History of the South Since 1865: PR: AMH 2010 and 2020 or C.I. Reconstruction, the "solid South" and the racial dilemma, progressivism for whites only, southern literature, 20th century economic, political, and social changes, and the new Reconstruction.

AMH 3421
History of Florida to 1845: PR: AMH 2010 and 2020 or C.I.

AMH 3423
Florida History 1845-Present: PR: AMH 2010 and 2020 or C.I.

AMH 3441
History of the Frontier: Eastern America: PR: AMH 2010 and 2020 or C.I. The progression of the westward movement from the colonial settlements to the Mississippi considered as an interpretive approach to American history.

AMH 3442
History of the Frontier: Western America: PR: AMH 2010 and 2020 or C.I. The development of the trans-Mississippi West and its impact upon American history.

AMH 3445
Spanish Borderlands: PR: AMH 2010 and 2020 or C.I. Survey of Spanish settlement in South and Southwestern U.S. with emphasis upon cultural conflicts found in the imperial rivalries for control of the area.

AMH 3570
Black American History: PR: AMH 2010 and 2020 or C.I. History of Negroes from their African heritage through American Slavery to freedom and their role in 20th Century America.

AMH 4110
Colonial America, 1607-1763: PR: AMH 2010 and 2020 or C.I. The voyages of discovery, the origins of the thirteen colonies, and their political, economic, social, and religious life in the 17th and 18th centuries.

AMH 4130
The Age of the American Revolution, 1763-1789: PR: AMH 2010 and 2020 or C.I. The American Revolution—its origins, course, and impact upon American society—the Articles of Convention, the Philadelphia Convention and its work.

AMH 4140
Jeffersonian America: PR: AMH 2010 and 2020 or C.I. The Confederation era, the Federalists, Jeffersonian Democracy, and the War of 1812.

AMH 4145
Jacksonian America: PR: AMH 2010 and 2020 or C.I. The risk of American nationalism, Jacksonian Democracy, the Mexican War and sectional conflict.

AMH 4170
Civil War and Reconstruction: PR: AMH 2010 and 2020 or C.I. Reconstruction, and impact of Industrialism.

AMH 4211
Robber Baron Era: PR: AMH 2010 and 2020 or C.I. The Agrarian Revolt, the Spanish-American War, and the Progressive Era.

AMH 4231
United States History: 1914-1945: PR: AMH 2010 and 2020 or C.I. The progressive Reforms of Woodrow Wilson, World War I, post-war prosperity, the Depression, and the New Deal; World War II.

AMH 4270
United States History: 1945-Present: PR: AMH 2010 and 2020 or C.I. Contemporary America from World War II.

AMH 4311
American Culture II: PR: AMH 2010 and 2020 or C.I. The European Backgrounds; Puritanism; Enlightenment, the Great Awakening; Revolutionary Thought; Romanticism; the Southern Mind and the Yankee Response; Popular Culture and the rise of recreation.
AMH 4322  
American Culture II: PR: AMH 2010 and 2020 or C.I. The Darwinian Revolution: revolt of the intellectuals; the media explosion; mass entertainment in mass culture; the loss of community, the nuclear age, and presentism.  
AMH 4510  
Rise of the United States to World Power, 1776-1914: PR: AMH 2010 and 2020 or C.I. The evolution of basic American policies. American expansion, America’s major wars, and the emergence of America as a world power.  
AMH 4511  
United States as a Great Power: 1914-Present: PR: AMH 2010 and 2020 or C.I. American foreign policy in World War I, the interwar period, World War II, and the Cold War.  
AMH 5116  
Colloquium in U.S. Colonial History: PR: Senior Standing or C.I. Reading and discussion of the literature on selected topics in U.S. History.  
AMH 5137  
Colloquium in U.S. Revolutionary Period: PR: Senior Standing or C.I. Reading and class discussion of the literature on selected topics in the Revolutionary Era, 1763-1789.  
AMH 5149  
Colloquium in Early U.S. Hist., 1789-1815: PR: Senior Standing or C.I. Reading and class discussion of the literature on selected topics of the early national period.  
AMH 5169  
Colloquium Age of Jackson: PR: Senior Standing or C.I. Intensive reading and class discussion on selected topics of the Jacksonian age.  
AMH 5176  
Colloquium in Civil War and Reconstruction: PR: Senior Standing or C.I. Intensive reading and class discussion on selected topics of the Civil War and Reconstruction era.  
AMH 5219  
Colloquium in Late 19th Century U.S.: PR: Senior Standing or C.I. Reading and class discussion of the literature on selected topics of late 19th century U.S.  
AMH 5296  
Colloquium in 20th Century U.S.: PR: Senior Standing or C.I. Reading and class discussion on selected topics in 20th century U.S.  
AMH 5391  
Colloquium in U.S. Cultural History: PR: Senior Standing or C.I. Students will read and discuss a common or diverse body of the significant literature in the field.  
AMH 5407  
Colloquium in American South: PR: Senior Standing or C.I. Intensive reading and class discussion on selected topics of Southern history from colonial origins to the present.  
AMH 5446  
Colloquium in U.S. Frontier: PR: Senior Standing or C.I. Reading and class discussion of the literature on selected topics of frontier history.  
AMH 5515  
Colloquium in U.S. Diplomatic History: PR: Senior Standing or C.I. A survey of the historical literature of American foreign policy.  
AMH 6117  
Seminar in Colonial U.S.: PR: C.I. Supervised research and writing of term papers on selected topics in American colonial history, 1492-1763.  
AMH 6138  
Seminar in American Revolution: PR: Graduate status or C.I. Selected topics in American history, 1763-1789.  
AMH 6179  
Seminar in Civil War and Reconstruction: PR: C.I. Supervised research and writing of term papers on selected topics of Civil War and Reconstruction era. Papers will be presented and defended in class.  
AMH 6218  
Seminar in Late 19th Century U.S.: PR: C.I. Supervised research and writing of term papers on selected topics on the farmer and labor movements and the growth of industrialization.  
AMH 6356  
Seminar in U.S. Politics: PR: C.I. Supervised research and writing of term papers on selected topics in American political history.  
AMH 6393  
Seminar in U.S. Cultural History: PR: C.I. Seminar papers will be written, presented and discussed dealing with selected themes in U.S. cultural history.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>AMH 6408</td>
<td>Seminar in American South: PR: C.I. Supervised research and writing of term papers on selected topics in Southern history. Papers will be presented and defended in class.</td>
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<tr>
<td>AMH 6447</td>
<td>Seminar in U.S. Frontier: PR: C.I. Supervised research and writing of term papers on selected topics in the history of the American frontier.</td>
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<td>AMH 6469</td>
<td>Seminar in Local History: PR: C.I. Supervised research and writing of term papers on selected topics in city, county and regional history.</td>
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<tr>
<td>AMH 6516</td>
<td>Seminar in U.S. Diplomatic Hist: PR: C.I. Supervised research and writing of papers on selected topics in the history of American foreign policy, 1776-present.</td>
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<td>AML 2011</td>
<td>American Literature I: Major American writers from beginning through Whitman.</td>
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<td>AML 3020</td>
<td>American Literature II: Major American writers from Twain to present.</td>
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<td>AML 4101</td>
<td>American Novel: Analysis of major American novelists.</td>
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<td>AML 4261</td>
<td>Modern American Literature: Major writers of modern American literature.</td>
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<td>ANT 3122</td>
<td>Archaeological Methods: PR: ANT 3000 or ANT 3410. A seminar surveying archaeological field and laboratory techniques; i.e., bone preservation, zooarchaeology, ethnobotany, cataloguing, classification, and laboratory analysis.</td>
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<tr>
<td>ANT 3141</td>
<td>Prehistory of Complex Societies: An analysis of prehistoric urban systems in Europe, Asia, Africa and the Americas, approached in an evolutionary perspective.</td>
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<tr>
<td>ANT 3142</td>
<td>Old World Prehistory: PR: ANT 3000 and ANT 3410. Fundamentals of archaeological discipline and research techniques. Surveys prehistoric record of cultural development from earliest times to rise in civilizations in all areas of Old World.</td>
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<tr>
<td>ANT 3144</td>
<td>New World Prehistory: PR: ANT 3000 and ANT 3410. Essentials of New World archaeology, methods, and excavations. Surveys space-time framework of Native American Indian cultures and civilization from earliest times to A.D. 1500.</td>
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<tr>
<td>ANT 3241</td>
<td>The Anthropology of Religion: Patterns in religious behavior in various societies with primary emphasis on myth, rite, taboo and festival as social phenomena.</td>
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<tr>
<td>ANT 3312</td>
<td>Ethnology of North American Indians: A survey of the aboriginal cultures of North America with emphasis on the pre-contact cultural condition.</td>
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<tr>
<td>ANT 3332</td>
<td>People and Cultures of Latin America: An overview of the history and society of the peoples of Latin America emphasizing patterns of subsistence and social organization.</td>
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<tr>
<td>ANT 3410</td>
<td>Social Anthropology: PR: ANT 2003. Framework and principles of sociocultural organization as exemplified among various cultures and ethnic groups.</td>
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ANT 3422

Comparative Social Organization: PR: ANT 3000 and 3410. Introduction to anthropological viewpoints on role of marriage, family, kin groups, and descent in the study of economic, political and ideological aspects of social organization.

ANT 3424

Culture and Community: The anthropology of the human community in a cross-cultural context focusing on such aspects as settlement patterns, subsistence activities, social structure and processes of interaction.

ANT 3432

Culture and Personality: Theories of the variations in personality in relation to culture and group life.

ANT 3464

Human Microevolution: A study of the forces of evolution operating within the contemporary human populations, with particular emphasis upon epidemiological areas of research.

ANT 3511

Physical Anthropology: PR: ANT 3000 and 3410. The study of man as a product of the evolutionary process. Study and analysis of diversity among present human populations.

ANT 3512

Biobehavioral Anthropology: An introduction to the study of human behavior in terms of mutual interaction between human biology and cultural environments.

ANT 3552

Primateology: An introduction to the evolution of non-human primates and to contemporary field and laboratory primatological research.

ANT 4086

Method and Theory in Anthropology: PR: ANT 3000 and 3410. Central methodological and theoretical concerns of anthropology in its emergence as a separate discipline and field of study.

ANT 4705

Applied Anthropology: The application of social science to problems of directed social and technological change in industrial as well as non-industrial societies.

ANT 5937

Proseminar in Anthropology: An intensive introduction to the study of anthropology. Open to all graduate students and undergraduate students with C.I.

APB 3263


APB 3293

Respiratory Pathology: PR: NS ZOO 3733. Cellular pathology with emphasis on pathology of respiratory and cardiovascular systems.

APB 3800


APB 4810


APB 4850

Medical Pharmacology II: PR: APB 4610. Continuation of APB 4610.

APB 5581C

Applied Microbiology: PR: MCB 2013C or C.I. Microbiology of consumer products; role of microorganisms in world food production and deterioration of consumer products; quality control.

ARE 4143

Methodology for Teaching K-12 Art Education I: Methods and curriculum materials for teaching art in elementary and secondary schools.

ARE 4144

Methodology for Teaching K-12 Art Education II: Continuation of ARE 4143.

ARE 4313

Art in the Elementary School: Basic principles, purposes, scope and sequence; organization for instruction; evaluation of activities; selected art experiences.

ARE 4440

Two-Dimensional Instructional Materials: PR: ARE 4313 or C.I. Application of two-dimensional materials to appropriate levels of instruction; chalk, ink, water color, crayon, tempera, acrylics, paper, fiber, and oils. Lab. TBA.
ARE 4441 ED 3(3,0)
Graphic Instructional Materials: PR: 4313 or C.I. Application of graphic materials to appropriate level of instruction; direct and indirect basis processes of reproduction of mono and multi-printing. Lab. TBA.

ARE 4443 ED 3(3,0)
Three-Dimensional Instructional Materials: PR: ARE 4313 or C.I. Application of three-materials appropriate levels of instruction: wood, paper, plaster, stone, clay, wax fiber, metal, and synthetics. Lab. TBA.

ARE 5251 ED 3(2,1)
Art for Exceptionalities: Concepts, principles, and methods of integrating art processes into the education of the physically, emotionally, and mentally handicapped.

ARE 5255 ED 3(2,1)
Arts in Recreation: Art activities and experiences appropriate for use in playground, leisure services, occupational orientation and other recreational areas.

ARE 5358 ED 3(3,0)
Found Arts: PR: ARE 4440 and ARE 4443 or C.I. Materials available for instruction in the public schools will be explored in depth in relation to their appropriateness and productive qualities.

ARE 5444 ED 3(3,0)

ARE 5648 ED 3(3,0)
Contemporary Visual Arts Education: PR: ARE 4344 or C.I. Continued study of current programs and innovations in public school Visual Arts Programs.

ARE 6455 ED 3(3,0)
K-12 Art Instructional Materials I: Advanced application of two-dimensional, three-dimensional, and graphics materials to appropriate levels of instruction in elementary and secondary schools.

ARE 6456 ED 3(3,0)
K-12 Art Instructional Materials II: Continuation of ARE 6455.

ARH 2050 AS 3(3,0)
The History of Art I: Painting, sculpture and architecture from the Prehistoric Era through the Renaissance period.

ARH 2051 AS 3(3,0)
The History of Art II: Painting, sculpture and architecture from the Baroque through the 20th century.

ARH 3118 AS 3(3,0)
Arts of Pre-Literate Societies: The visual arts in recent and contemporary primitive societies with emphasis on the cultures of Africa and Oceania.

ARH 3530 AS 3(3,0)
Asian Art: History of visual arts of China, Japan, India and other Eastern cultures.

ARH 3710 AS 3(3,0)
History of Photography: The development of still photography in terms of historical aesthetic, and social content from 1839 to the present.

ARH 4071 AS 4(4,0)

ARH 4170 AS 3(3,0)
Greek & Roman Art: A study of the art and architecture of the ancient civilizations of the Mediterranean, comprising Greece, Etruria, and Rome.

ARH 4301 AS 3(3,0)
Renaissance Art: A study of the art and architecture of Western Europe during the 15th and 16th centuries, with special attention given to Italy, Flanders and Germany.

ARH 4350 AS 3(3,0)
Baroque Art: A study of European Art in the seventeenth and eighteenth centuries.

ARH 4430 AS 3(3,0)
19th Century Art: A survey of the trends and developments in art during the nineteenth century, including the art of America and of Western Europe.

ARH 4450 AS 3(3,0)
20th Century Art: A survey of the art from Fauvism, Futurism, and Cubism to the art of the present.

ARH 4700 AS 3(3,0)
Art and Technology: The impact of technological developments in the visual arts of the 20th Century.

ARH 4730 AS 4(4,0)
Environmental Art: Analysis of aesthetic design factors, related to city planning, architecture, product design, and experimental environmental arts.
ARH 4800

ART 2201C
Design Fundamentals I: Materials, processes, form. Emphasis on two-dimensional design problems, including problems in black and white and basic color theory.

ART 2202C
Design Fundamentals II: Continuation of color theory and basic three-dimensional design using the various sculptural media.

ART 2300C
Drawing Fundamentals I: Drawing as a means of formal organization. Introduction to problems in drawing methods and media. Emphasis on description techniques.

ART 2301C
Drawing Fundamentals II: Continuation of ART 2300.

ART 3100C

ART 3110C
Ceramics: PR: ART 2203 or C.I. Basic concepts of ceramic design, experience in processes of forming, decorating, glazing, and firing pottery.

ART 3230C

ART 3232C
Graphic Design I: PR: ART 3280 or C.I. Methods, materials, and processes related to perceptual studies in graphic design.

ART 3280C
Graphic Design I: PR: ART 2201, 2202, or C.I. Study of classical and historic type as graphic design elements.

ART 3331C
Intermediate Drawing II: PR: C.I. Continuation of Intermediate Drawing I.

ART 3400C
Printmaking: PR: Three quarter hours of Drawing Fundamentals or C.I.

ART 3510C
Painting: PR: Three semester hours in Design Fundamentals and three semester hours in Drawing Fundamentals or C.I. Concentration of basic techniques and aesthetic factors in painting.

ART 3600C
Photography: PR: ART 2201. Consideration of basic technical and aesthetic factors in using still photography as a vehicle for visual expression.

ART 3701C
Sculpture: PR: Six semester hours in Design Fundamentals, to include three semester hours in three-dimensional work, or C.I.

ART 4108C
Advanced Three-Dimensional Design: PR: ART 3100C. May be repeated for credit. Advanced problems in three-dimensional materials, processes, forms.

ART 4111C
Advanced Ceramics: PR: ART 3110C. May be repeated for credit.

ART 4130C
Fibers, Fabrics, Textiles and Synthetics: Textile design and production, including non-loom weaving processes. May be repeated for credit.

ART 4188C

ART 4235C
Advanced Graphic Design I: PR: ART 3232C or C.I. Large scale studio problems involving modern graphic design media.

ART 4237C
Advanced Graphic Design II: PR: ART 4235C or C.I. Advanced group problems in Graphic Design.

ART 4320C
Advanced Drawing: PR: ART 3331C. May be repeated for credit.

ART 4402C
Advanced Printmaking: PR: ART 3400C. May be repeated for credit.

ART 4530C
Advanced Painting: PR: ART 3510C. May be repeated for credit.
ART 4604C
Advanced Photography: PR: ART 3600C. May be repeated for credit.
ART 4608C
Special Problems in Photography: PR: ART 3600C or C.I. A series or directed photographic problems of a research nature. May be repeated for credit.
ART 4854C
Special Problems in Film Design: A series of exercises in craft, technique, and design for film production, including animation.
ART 4703C
Advanced Sculpture: PR: ART 3701C. May be repeated for credit.
ART 4965
Senior Studio and Exhibition: Studies for the preparation of portfolios, resumes, gallery exhibitions, and other professional practices.
ART 5109C
Crafts Design: Crafts design and production, including the use of rigid, flexible, and linear materials.
ASH 3300
Survey of East Asia: PR: EUH 2000 and 2001 or C.I. An introduction to Far Eastern Cultures including India since the Age of the Moguls, China since early European penetration, Japan since the Hermit Kingdom.
ASH 3403
Survey of Chinese History I: PR: EUH 2000 and 2001 or C.I. From antiquity to 1368, a study of the development of Chinese social, political and cultural traditions from their early beginnings to the end of Yuan Dynasty.
ASH 3405
Survey of Chinese History II: PR: EUH 2000 and 2001 or C.I. From 1368 to present, a study of the evolution and transformation of Chinese society during late-imperial and modern periods, with special emphasis on China’s response to the western impact.
ASH 4404
China in 19th and 20th Centuries: PR: EUH 2000 and 2001 or C.I. The Mongols in China; coming of the Europeans; social structure; Communist movement; Japanese aggression.
ASH 4442
Modern Japan, 19th and 20th Centuries: PR: EUH 2000 and 2001 or C.I. A survey of the Tokugawa Shogunate; Western contact in the 19th century; World War I; Japanese militarism; World War II; and U.S. occupation.
AST 1005
Astronomy: Descriptive survey of solar system, galaxies and universe. Physical properties of stars deduced from their radiation. Night observation sessions (optional).
BCH 4053
BCH 4054
Biochemistry II: PR: BCH 4053. Continuation of BCH 4053.
BCH 4103L
Biochemical Methods: PR: BCH 4053 and CHM 3121C. A laboratory course stressing the application of the chemical arts to the separation, identification, and quantification of materials of biological significance.
BCN 4230
Construction Methods, Contracts and Specifications: Construction principles, details, materials and methods used. Legal contractual provisions and interrelations of specifications applied to construction.
BES 3512
Behavioral Weight Control: Application of behavioral techniques to produce weight loss. Diet, exercise, and behavioral self regulation principles are used in an individual student case study approach.
BOT 1010C
General Botany: Introduction to botany; plant structure and function with emphasis on forms and applications important to man.
BOT 3154C
Local Flora: PR: BOT 1010C or C.I. Recognition and identification of Florida higher plants, especially those common to central Florida, stressing environmental and ethnobotanical significance. Weekend field trips may be required.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title and Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOT 3223C</td>
<td>Plant Anatomy: PR: BOT 1010C. A study of development, structure and function of the principal organs and tissue of vascular plants.</td>
</tr>
<tr>
<td>BOT 3303C</td>
<td>Plant Kingdom: PR: BOT 1010. A survey of the plant kingdom utilizing comparative morphology, structure and functions to demonstrate relationships among extant and extinct forms.</td>
</tr>
<tr>
<td>BOT 3800</td>
<td>Plants and Man—Ethnobotany: Man's historical and modern uses of plants economically important in various cultures. For non-majors.</td>
</tr>
<tr>
<td>BOT 3820</td>
<td>Plants and the Urban Environment: The selection, placement, propagation and care of ornamental plants in residential and industrial areas. For non-majors.</td>
</tr>
<tr>
<td>BOT 4403C</td>
<td>Freshwater Algae: PR: BOT 1010C or C.I. A lecture-laboratory course to survey the physiology, diversity and ecology of the freshwater algae.</td>
</tr>
<tr>
<td>BOT 4503C</td>
<td>Plant Physiology: PR: PCB 3023, or C.I. A study of mechanisms used by plants to cope with the environment.</td>
</tr>
<tr>
<td>BOT 4823</td>
<td>Plant Geography: 8 hours Botany or C.I. The major climatic plant formations of the world and historical plant geography.</td>
</tr>
<tr>
<td>BOT 4713C</td>
<td>Plant Taxonomy: PR: BOT 1010C. An introduction to systematic classification and identification of vascular plants with emphasis on the flora of peninsular Florida.</td>
</tr>
<tr>
<td>BOT 5495C</td>
<td>Bryology: PR: BOT 3303C or C.I. A lecture-laboratory survey course on the diversity and classification of mosses, liverworts and hornworts with special emphasis on those found in Florida.</td>
</tr>
<tr>
<td>BOT 5705C</td>
<td>Plant Biostatistics: PR: BOT 4713C or C.I. Evolutionary relationships, plant taxa and populations utilizing cytological, morphological, and biochemical techniques.</td>
</tr>
<tr>
<td>BOT 6146C</td>
<td>Terrestrial Vegetation: PR: 8 hours in biological sciences or science teaching experience or C.I. Classification and identification among terrestrial plant groups and their natural association in the field. Reference sources reviewed.</td>
</tr>
<tr>
<td>BSC 1010C</td>
<td>Basic Biology: Basic principles, unifying concepts and facts of modern biology. Introduction to quantitative biological experimentation. For Biological Sciences, Allied Health Sciences and preprofessional majors.</td>
</tr>
<tr>
<td>BSC 1020C</td>
<td>Biological Principles: A study of various biological factors which affect the health and survival of man in modern society. Designed for non-majors.</td>
</tr>
<tr>
<td>BSC 1030C</td>
<td>Biology and Environment: Biological implications of the interaction among human society, population, and technology in relation to the environment and natural systems. Designed for non-majors.</td>
</tr>
<tr>
<td>BSC 4034</td>
<td>Biology and Society: PR: An introductory course in Biology or C.I. Biological concepts applied to current human problems—food production, pollution, diseases, energy, life support systems, natural ecosystems. Designed for non-majors.</td>
</tr>
<tr>
<td>BSC 6146C</td>
<td>Terrestrial Vegetation: PR: 8 hours in biological sciences or science teaching experience or C.I. Classification and identification among terrestrial plant groups and their natural association in the field. Reference sources reviewed.</td>
</tr>
<tr>
<td>ED 3(2,2)</td>
<td>Introductory Typewriting: Instruction in touch control of the typewriter keyboard. Introduction to typing letters, tables, manuscripts, and typing composition.</td>
</tr>
<tr>
<td>ED 2(2,1)</td>
<td>Typewriting Production: Extend speed and accuracy in touch typewriting. Develop skills for advanced letters, tables, and manuscripts.</td>
</tr>
<tr>
<td>ED 3(3,1)</td>
<td>Principles of Shorthand I: Introduction to basic theory of Gregg shorthand, vocabulary development, and speed building.</td>
</tr>
<tr>
<td>ED 3(3,1)</td>
<td>Professional Typewriting Production: PR: BTE 2061 or C.I. Develop professional level speed, accuracy and production skills in the use of the typewriter.</td>
</tr>
</tbody>
</table>
BTE 3151  ED 3(3,1)
Advanced Shorthand: CR: BTE 2061. PR: BTE 2064 or equivalents. Extend and refine Gregg shorthand dictation, speed and vocabulary; introductory typewritten communication production skills.
BTE 3266  ED 3(2,1)
Office Technology: PR: BTE 1060 or C.I. Basic operation and function of technological media in modern business offices, including word processing equipment.
BTE 3391  ED 2(2,1)
BTE 3391L  ED 1(0,4)
Typewriting Laboratory for Instructional Development: CR: BTE 3391. Practical application of typewriting theory in the competency-based and traditional classroom. For Business Education Majors only.
BTE 4071  ED 1(0,4)
Professional Student Leadership Development: Knowledge and application of objectives for vocational student organizations. Participation in local, state and national business education organization functions. (May be repeated once.)
BTE 4152  ED 3(3,1)
Shorthand Dictation and Transcription: CR: BTE 3062 and BTE 3151. Professional level shorthand dictation for transcription and refinement of typewritten communications production skills.
BTE 4265  ED 3(3,0)
BTE 4392  ED 3(3,0)
Business Correspondence: Originating written business correspondence to include letters, memoranda, and business forms. (Typewriting skill recommended.)
BTE 4392L  ED 2(2,0)
Business Instructional Analysis II: PR: EDG 4341. Techniques, materials, and instructional media; psychological principles, evaluation and current trends in shorthand and related instruction.
BTE 4392LL  ED 1(0,4)
Shorthand Laboratory for Instructional Development: CR: BTE 4392L. Practical application of shorthand theory in the competency-based and traditional classroom. For Business Education majors only.
BTE 4393  ED 2(2,0)
BTE 6172  ED 3(3,0)
Business Education Curriculum: PR: Regular Certificate or C.I. Curriculum planning and development; objectives, innovations, problems and issues in contemporary Business programs.
BTE 6371  ED 3(3,0)
Advanced Business Instruction Techniques: PR: Graduate Standing or C.I. Research, methods and materials related to current practices in Business Education.
BTE 6772  ED 3(2,3)
Office Simulation Techniques: PR: Regular Certificate or C.I. Methods of office simulation for teachers at the developmental and performance levels.
BTE 6935  ED 3(3,0)
Seminar in Business Education: PR: Graduate Standing or C.I. Current problems, issues and trends in Business Education.
BTE 6946  ED 3(3,0)
Practicum in Business Education: PR: Graduate standing. Techniques, materials, and instructional media; evaluation, and new trends of instruction in all areas of Business Education.
BUL 3111  BA 3(3,0)
BUL 3112  BA 3(3,0)
Business Law I: PR: BUL 3111. Analysis of statutory and common law principles involved in the formation, operation and termination of recognized business organizations.
BUL 3121  BA 3(3,0)
BUL 3301  BA 3(3,0)
Legal and Social Environment of Business: PR: Admission to graduate program. Analysis of the legal and ethical environment of business, the effects of legislation and regulation on business activity, and the role of law and ethics in the decision making process.

Computer Fundamentals for Business Applications: Hardware/software for business data processing; survey of business applications programs; study of prewritten programs (batch and interactive); writing programs in high level language. Not open to Computer Science Majors.

Business Applications Programming: PR: CAP 3001 or equivalent. Basic programming concepts and techniques, algorithm design, programming for selected business applications using a high level language (e.g. BASIC). Not open to Computer Science Majors.

Survey of Hardware: PR: CAP 3002. Assembly programming; survey of hardware available in today's market; techniques of hardware comparison. Not open to Computer Science Majors.


Computerized Health Information Systems: PR: CAP 3001 or equivalent. Analyses of computerized health information systems with emphasis upon the design and implementation phases. On-site visitations of several local computerized health information systems. Not open to Computer Science Majors.

Applications of Computers in Education: PR: At least Senior standing in College of Education. Computer programming; computer assisted instruction, computer-managed instruction; simulation and games; computerizing teachers records. Not open to Computer Science Majors.

Computer Based Educational Systems: PR: COP 4550 or equivalent. The design and implementation of computer based educational systems. Selected projects using high-level programming languages.

Heuristic Programming: PR: COP 5554 or equivalent. Design and development of heuristic problem-solving systems; knowledge structures, control structures, heuristics; application areas include game playing, theorem proving, robotology, machine and human learning.

Introduction to Intelligent Systems: PR: COP 4550 or equivalent. Origin/evolution of machine intelligence; heuristic and epistemological approaches to artificial intelligence; what computers can and cannot do; symbiotic role of human and computers.

Computer Graphics Systems I: PR: COP 3404 or equivalent. Architecture of graphics processors; display hardware; principles of programming and display software; problems and applications of graphic systems.

Simulation/Performance of Computer Systems: PR: CDA 5106 and COP 5613. Performance measurement of hardware and software systems, simulation techniques, monitoring programs.

Intelligent Systems: PR: CAP 5670. Study of computer systems exhibiting intelligent attributes, particularly learning; basic concepts related to characteristics, design and principles of operation; discussion of relevant philosophical/social issues.

Computer Graphic Systems II: PR: CAP 5722. Modeling design and analysis of graphics systems; data structures, numerical techniques, algorithms and optimum seeking methods for various problems in computer graphics.

Comparative Psychology: PR: PSY 2013. A study of comparative behaviors of lower animals.
CCJ 3260 AS 4(4,0)
Criminal Law in Action: Basic concepts of criminal law: elements of major crimes, criminal responsibility, defenses, and parties to crime.

CCJ 3280 AS 4(4,0)
Criminal Law: Examination of the processes of investigation and criminal trial courts, and of the processes of charging, adjudicating and sentencing defendants.

CCJ 3300 AS 4(4,0)
The Corrections and Penology: Theories, structures and methods of institutional and non-institutional processing and treatment of convicted criminals and juvenile offenders.

CCJ 3341 AS 4(4,0)
Community Treatment Modes: Treatment techniques and practices in the community setting. Builds upon modes covered in prerequisite course and may include practicum experience in a community setting.

CCJ 3430 AS 4(4,0)
The Criminal Justice Manager: PR: C.I. Elements of first-line supervision and executive development. Administrative leadership; its nature; methods and traits. Recent theories and research in leadership.

CCJ 3451 AS 4(4,0)
Justice System Technology: Examination of the relevance of scientific and technological developments to justice systems and their applicability to the operations and management of the systems.

CCJ 3820 AS 3(3,0)
Security Administration: Discussion of modern security administration and the security-law enforcement interface emphasizing a systems approach and utilizing the design of a security plan for a plant.

CCJ 4440 AS 4(4,0)
Corrections Administration: Organizational and administrative theory and its application in various correctional settings. Examines specific problems in management and meeting conflicting needs and expectations.

CCJ 4450 AS 4(4,0)
Social Conflict and Justice Policy: The effects of social conflicts and political decisions on the administration of justice, stressing the law enforcement role in dealing with social problems.

CCJ 4481 AS 4(4,0)
Police and the Community: PR: CCJ 2020. Examination of the dynamics of public expectations of police, the impact of community demographic changes and police alienation from the community.

CCJ 4540 AS 4(4,0)
Delinquency Control: Examination of programs and institutions including juvenile court process, intake services, and remedial procedures and practices.

CCJ 4630 AS 4(4,0)
Comparative Justice Systems: A survey of contemporary foreign criminal justice and differences emerging from various political, cultural and legal systems.

CCJ 4941 AS 4-8(0,12-36)
Criminal Justice Internship: PR: C.I. Internship in municipal, county, state or federal criminal justice agency. Includes assignments in police, courts, corrections components.

CCJ 5485 AS 4(4,0)
Issues in Justice Policy: Examination of selected issues of public policy regarding the functions and roles of criminal justice agencies via a vis other government departments or agencies and public purposes.

CDA 4012 AS 3(2,2)
Computer Interfacing for Scientists: PR: CHM 2046, or PHY 2041, or PHY 2052, or equivalent, or C.I. Hands-on laboratory embracing simple gate, flip flop, decoding and counting circuits, digital logic. Interfacing to a microcomputer for data logging and experimental control.

CDA 4102 AS 3(3,0)

CDA 4142 AS 3(2,2)
Microcomputer Organization: PR: COP 3404. An analysis of a microcomputer's organization, and chip set with emphasis on a system programming.

CDA 4143 AS 3(2,2)
Microcomputer Interfacing/Software: PR: CDA 4142. A survey of current peripheral hardware available for microprocessors; how a wide range of devices are interfaced to a microcomputer with an emphasis in software.

CDA 4144 AS 3(2,2)
Microcomputer Applications: PR: CDA 4143. A case study investigation into several commercial available microprocessor based systems.

CDA 5106 Advanced Computer Architecture I: PR: CDA 4102. Evolution of computer architecture; memory organization; cache; virtual memory; high-speed processor design; pipeline multi-functional and array machines; special architecture case studies; overview of channel architecture.

CDA 5182 Architecture and Design of VLSI Systems: PR: CDA 4102 or equivalent. Overview of VLSI technology. Stick diagrams; logical design of basic subsystems; integrated system design tools; design of a VLSI computer system.

CDA 6107 Advanced Computer Architecture II: PR: CDA 5106. Multiprocess systems; interconnection network; stack architectures; high-level language architecture; design languages; performance evaluation.

CDA 6108 Current Topics in Computer Architecture: PR: CDA 6107. Associative machine architectures; non-numeric and database machines, data flow architecture; fault tolerant architecture.


CDA 6168 Computer Networks Design and Distributive Processing: PR: CDA 6166 and COP 5613. Computer communications networks design considerations, network operating systems, distributive processing.


CES 4124 EN 3(2,2) Structural Engineering Analysis: PR: EGN 3331. Topics in structural mechanics, energy methods, indeterminate structures by flexibility, stiffness method, analysis of columns.

CES 4144 EN 3(3,0) Matrix Methods of Structural Analysis: PR: EGN 3331. Structural analysis of beams, frames, and plates by matrix methods.

CES 4605 EN 3(2,2) Structural Steel Design: PR: CES 4124 or C.I. Design of steel structural members. Selected topics in beam design, column design, plastic design, connections and built-up members.

CES 4704 EN 3(2,2) Structural Concrete Design: PR: CES 4124 or C.I. Principles of designing reinforced concrete members. Selected topics in concrete mixes, beams, columns, and ultimate analysis.

CES 5102 EN 3(3,0) Intermediate Mechanics of Materials: PR: EGN 3331 and MAP 3302. Elements of plane elasticity; failure theories; curved beams; columns; bending and torsion of thin-walled structures; theory of thin plates; applications to design.

CES 5107 EN 3(3,0) Matrix Structural Analysis: PR: CES 4144 or equivalent. Optimization and matrix methods applied to the design of real structures.


CES 6606 EN 3(3,0) Steel Design: PR: CES 4605 or equivalent. Design of complete steel structures to include economics, plastic design and real building examples.

CES 6707 EN 3(3,0) Concrete Design: PR: CES 4704 or equivalent. Design of concrete structures to include economics, slabs, prestressed concrete, and real building examples.
CHM 1034
General Chemistry: An introductory study of the fundamental concepts of chemistry, oriented toward COH and Biology Education majors.

CHM 2045
Chemistry Fundamentals I: PR: High School Chemistry or CHM 1034. Basic physical theory of chemical reactivity, atomic structure, chemical bonding, periodicity, stoichiometry, equilibria, thermodynamics, and kinetics.

CHM 2046
Chemistry Fundamentals II: PR: CHM 2045. Continuation of CHM 2045.

CHM 2046L
Chemistry Fundamentals Laboratory: PR: CHM 1034 or CR: CHM 2046. Illustration chemical principles and introduction to the techniques of inorganic and physical chemistry.

CHM 2220
Introduction to Organic and Biochemistry: PR: CHM 1034 or equivalent. An introduction to organic chemistry, stressing the chemistry of functional groups and a survey of the biochemistry of proteins, carbohydrates, lipids and nucleic acids.

CHM 3121C
Analytical Chemistry: PR: CHM 2046, 2046L. Laboratory practices of classical and instrumental analysis. Choice of preferred analytical methods and techniques is emphasized through applications involving both inorganic and organic systems.

CHM 3210

CHM 3211

CHM 3211L
Organic Laboratory Techniques I: PR: CHM 3210. An introduction to the laboratory techniques of organic chemistry including the preparation, reaction, and analysis of organic compounds.

CHM 3212L
Organic Laboratory Techniques II: PR: CHM 3211 and 3211L. Open-end laboratory to develop synthesis techniques and structure elucidation skills.

CHM 3410
Physical Chemistry I: PR: CHM 2046. PHY 2041, and MAC 3312. Rigorous treatment of atomic and molecular structure, thermodynamics, kinetics, and chemical bonding.

CHM 3411
Physical Chemistry II: PR: CHM 3410. Continuation of CHM 3410.

CHM 3411L
Physical Chemistry Laboratory I: FR: CHM 3121C, CHM 3410 and COP 1110 or COP 3215. Classical as well as modern instrumental techniques coupled with computer data processing to measure physical properties and determine atomic and molecular parameters.

CHM 4130C
Advanced Analytical Laboratory Technique: PR: CHM 3211, CHM 3211C and CHM 3411. A lecture-laboratory course designed to give in-depth coverage to modern methods of analysis including electrochemistry, spectroscopy, and separation techniques.

CHM 4220

CHM 4580

CHM 4610

CHM 5710
Chemical Structure I: PR: CHM 3211, 3211C, and 3411; or equivalent. Concepts in molecular structure and the relationships between structure and the chemical and physical properties of a substance.

CHM 5711
Chemical Structure II: PR: CHM 5710. Continuation of CHM 5710.

CHS 3501
Introduction to Forensic Science: Intended for non-majors to provide an appreciation for the ways in which forensic science serves the civil and criminal justice system.
CHS 3511
Criminalistics I: PR: CHM 2046 or C.I. Examination and evaluation of evidence obtained from suspect criminal actions, including the microscopy of trace evidence.

CHS 3512
Criminalistics II: PR: CHS 3511. Continuation of CHS 3511.

CHS 3531
Forensic Analysis Techniques: PR: CHM 3121C. Study of separation, purification, quantitative, and instrumental techniques in drug and narcotic analysis toxicology, blood factor, and enzyme identification.

CHS 4110C
Nuclear and Radiochemistry: PR: CHM 3121C and CR: CHM 3411. A lecture-laboratory course examining theories of fundamental particles, the chemical effects of nuclear transformations and the special uses of isotopes.

CHS 4200
Concepts in Industrial Chemistry: PR: CHM 3410. An introduction to industrial practices emphasizing the application of chemical principles in the development of a commercial process or product.

CHS 4591
Forensic Science Internship: PR: C.I. Credit for full-time work (6-8 weeks) in a professional forensic laboratory. This course may be repeated for credit.

CHS 5240
Chemical Dynamics I: PR: CHM 3411 or equivalent. Dynamics of chemical reactions and physical processes including equilibrium systems catalysis, transport processes and physical phenomena at interfaces.

CHS 5241
Chemical Dynamics II: PR: CHS 5240. Continuation of CHS 5240.

CHS 5250
Chemical Synthesis I: PR: CHM 3211, and 3411; or equivalent. Survey of chemical synthesis from the standpoint of planning a synthesis, intermediates, special techniques, protection of functional groups, experimental design and optimization of reaction conditions.

CHS 5251
Chemical Synthesis II: PR: CHS 5250. Continuation of CHS 5250.

CHS 5260C
Laboratory Principles of Industrial Chemistry: PR: C.I. A laboratory study of the basic operations utilized in the chemical industry to synthesize and purify chemical products.

CHS 5261
Chemical Process Development: PR: C.I. Consideration of various factors involved in development of a chemical process including determination of technical and economic feasibility, optimizing conditions and planning the development program.

CIS 4112
Databases: PR: COP 4530. Basic concepts of databases, I/O processing, file organization and access, study of selected data base systems. Database project.

CIS 4323

CIS 4324
Data Processing Systems Implementation: PR: CIS 4323. System implementation project. Students experience the task of implementing a large computing system.

CIS 5012
Information and File Systems Analysis: PR: COP 4530 or equivalent. Logical and physical information system design. Analysis of file systems. Introduction to data management systems.

CIS 5041

CIS 5234
Computational Techniques in Management Information Systems: PR: CIS 4112. Computers in management information systems; analysis, design approaches, processing methods and data management; use of state of the art software in design and development.

CIS 6122

CIS 6124
Data Base Management Systems Theory: PR: CIS 6122. Theory of data models, data languages and data base management systems.
CLP 3003 AS 3(3,0)
Psychology of Adjustment: Psychological principles of adjustment; application of psychology to problems in living.

CLP 3143 AS 3(3,0)

CLP 3302 AS 3(3,0)
Clinical Psychology: PR: PPE 3003 or CLP 3143. An overview of approaches to psychopathology, methods of clinical assessment, and various approaches to individual and group counseling.

CLP 4440 AS 4(2,2)

CLP 6416 AS 3(2,1)

CLP 6441 AS 3(2,2)

CLP 6445 AS 3(2,2)
Psychological Assessment II: PR: CLP 6441, graduate admissions and C.I. CR: PSY 6946. Theories and techniques of psychological assessment with primary emphasis on objective and projective techniques of personality assessment, interviewing skills and report writing.

CLP 6456 AS 3(2,2)

CLP 6457 AS 3(2,2)

CLP 6458 AS 3(2,2)
Clinical Intervention III: PR: Graduate Admission and C.I. Introduction to the principles and procedures of behavior modification as a clinical intervention technique.

CLP 6459 AS 3(2,1)

CLP 6932 AS 2(2,0)
Ethical and Professional Issues in Clinical Psychology: CR: To be taken concurrently with internship. Examination of APA Code of Ethics as applied to clinical situations. Topics include confidentiality, commitment procedures, licensing laws.

CNM 4110 AS 3(3,0)

CNM 5142 AS 3(3,0)
Computational Methods/Linear Systems: PR: CNM 4110 and MAS 3113. Mathematical models for linear systems, linear programming, the simplex method, integer and mixed-integer programming, introduction to non-linear optimization and linearization.

CNM 5148 AS 3(3,0)
Computational Methods/Applications: PR: CNM 4110. Computational solution techniques for algebraic equation, ODE and PDE models of applications selected from science, engineering, applied mathematics, and computer science.

CNM 6144 AS 3(3,0)

CNM 6145 AS 3(3,0)

COC 1100 AS 3(3,0)
Introduction to Computer Science: History, typical computer, number systems, control and data flow, peripheral components, memory devices, effects of computers on society, applications of computers. Not open to Computer Science Majors.
COC 3024 AS 3(3,0)
**Personal Computing:** Survey of personal computers on the market; applications for education, entertainment and clerical work; programming in BASIC with exercises. Not open to Computer Science Majors.

COM 1000 AS 3(3,0)
**Basic Communication:** Survey of basic factors affecting human interaction through communication; theories and models of communication; contributions of behavioral sciences and related arts; mass media in society.

COM 3110 AS 3(3,0)
**Business and Professional Communication:** PR: SPC 1014 or C.I. Theoretical and practical training in effective presentational speaking for business and professions.

COM 3120 AS 3(3,0)
**Organizational Communication:** A study of communication functions and problems within the contexts of hierarchies.

COM 3311 AS 3(3,0)
**Communication as a Behavioral Science:** PR: English proficiency examination. Basic principles of the behavioral science approach to the study of contemporary communication.

COM 4020 AS 3(3,0)
**Informational Communication:** An examination of available communication systems (non-technical) and their utilization within business, educational, entertainment, industrial, medical, and military organization.

COM 4463 AS 3(2,1)
**Communication and Court Room Advocacy:** A study of the application of communication theory and practice to the judicial setting.

COM 6121 AS 3(3,0)
**Communication Management:** PR: C.I. Analysis and development, with reference to particular media. Organizational theory, structure and behavior. Management principles and operations.

COM 6300 AS 3(3,0)
**Introduction to Graduate Study in Communication:** This course is designed to introduce the student to practical and theoretical considerations for independent research in communication.

COM 6312 AS 3(3,0)
**Research Methods:** PR: COM 6300 or C.I. Provides practical experience in the development and execution of empirical research. Hypothesis development, research methodology, and data analysis are covered.

COM 6314 AS 3(3,0)
**Audience Measurement:** PR: C.I. Examination and review of audience measurement techniques. Individual assignments for compilation and analysis of measurement data.

COM 6426 AS 3(3,0)
**Information and Educational Systems:** PR: C.I. Sources, processing and transmittal of educational and informational materials (software) used in educational broadcast systems, information retrieval systems, learning machines, etc.

COP 1110 AS 3(3,0)
**Computer Programming:** PR: College Algebra and Trigonometry or equivalent. Problem definitions, algorithms, flow charts, digital computer programming using a higher level language (FORTRAN). Not open to Computer Science Majors.

COP 2510 AS 3(3,0)
**Programming I:** PR: College algebra and college trigonometry. Techniques of algorithm development; structured programming concepts; computer experience with a procedure-oriented language. Not open to Computer Science Majors.

COP 2511 AS 3(3,0)
**Programming II:** PR: COP 2510. Continuation of COP 2510: algorithms for researching and sorting procedures; recursion; simple data structures; program verification; continued experience with a procedure-oriented language.

COP 3120 AS 3(3,0)
**Business Programming in COBOL:** PR: CAP 3002 or equivalent. COBOL programming; fundamental concepts of data processing; system design; processing of sequential, indexed, and random files; programming project.

COP 3211 AS 3(3,0)
**Cobol Programming:** PR: Computer Science Core. Cobol programming in the preparation of business reports; processing sequential, indexed sequential and random access files; system utility programming; other advanced topics and laboratory topics.

COP 3215 AS 3(3,0)
**Programming and Numerical Methods:** CR: MAC 3312. Programming with a high level language (e.g. FORTRAN). I/O, formatting and manipulation of one and two dimensional arrays with emphasis on numerical problems. Not open to Computer Science Majors.
COP 3402C
Assembly Language: PR: COP 2511 or equivalent programming experience. Computer structure, number systems, data representation, arithmetic and logic instructions, addressing schemes, looping techniques, sequential input/output, subroutines, macros, and other topics.

COP 3404

COP 4530
Data Structures: PR: COP 3402 and COP 2511. Basic concepts of data; linear lists, strings, arrays and orthogonal lists; ordering or sorting techniques; recursion; string and list processing languages.

COP 4550
Programming Languages I: PR: COP 4530. Features of high-level programming languages; introduction to compiling and interpreting techniques; SNOBOL and LISP.

COP 4620
Programming Systems: PR: COP 3404 and COP 4530. The function and organization of operating systems. Design and implementation considerations regarding operating systems, compilers, assemblers and loaders.

COP 5554
Programming Languages II: PR: COP 4550 and COT 4001. A formal study of programming language design and specification, BNF grammars, models of semantics, compilers and interpreters.

COP 5613
Operating System Design Principles: PR: COP 4620 or equivalent. The structure and functions of operating systems, process communications techniques, scheduling algorithms, deadlocks, memory management, virtual systems, protection and security.

COP 5632
Software Engineering: PR: COP 4550. Study of design techniques for large software systems, modularization, task assignment, management techniques, implementation techniques, testing, quality control, documentation and maintenance.

COP 5682
Software Tools: PR: COP 4620 and COP 5554. Systems programming languages, concurrent programming, design and implementation of software development/maintenance tools. A large programming project is required.

COP 6555
Software Science: PR: COP 5554 or equivalent. Basic principles of software science including program level, effort, impurity classes and execution. Language comparison project using tools of software science: semantic characterization of languages.

COP 6582
Theories of Programming Language Semantics: PR: COP 5554. Models and Theories of semantics. Lambda calculus, denotational semantics, attributed grammars, operational semantics, Vienna Definition Language.

COP 6614

COP 6615

COP 6642
Introduction to the Theory of Translation: PR: COP 5554. Language theory, the theory of translation and parsing, finite automata and pushdown acceptors.

COP 6643
Compiler Construction: PR: COP 6642. Techniques in the design and implementation of compilers. A project is required.

COP 6672
Program Correctness and Verification: PR: COT 4001. Mathematical techniques and automated theorem proving for program verification; inductive assertions for partial and total correctness, proving correctness of flowchart programs and recursive programs.

COT 3000

COT 4001
COT 5127
Formal Languages and Automata Theory: PR: COT 4001. Classes of formal grammars and their relation to automata, normal forms, closure properties, decision problems, LR(k) grammars.

COT 5305

COT 5314
Computational Complexity: PR: COT 4001. Properties of algorithms, computational equivalence of machines, time-space complexity measures, examples of algorithms of different complexity, classification of algorithms, classes P and NP.

COT 5324
Computability Theory: PR: COT 4001. Models of computable procedures. Equivalence of models; unsolvable problems; hierarchies of unsolvability; applications including formal languages, automata theory, operating systems, automated theorem proving program verification.

COT 6202
The Theory of Parsing and Translation: PR: COP 5554. Methods of Top-down and Bottom-up parsing, LL(k), recursive descent, precedence, bounded-context, SR(s,k), SLR(k), LALR(k), LR(k), parser compression and generation.

COT 6206

CPO 3034
Politics of Developing Areas: Comparative analysis of theories, problems and politics of development in Third World nations.

CPO 3103
Comparative Politics: Government and politics in selected nations with emphasis upon comparative analysis of contemporary problems, politics, political culture, behavior and institutions.

CPO 4024
Non-Western Politics: Examination of the political system of one or two non-western nations, including the relationship of socio-cultural and historical environment to the political system.

CPO 4123
Government and Politics of Great Britain: A survey of British government, society, politics and institutions, emphasizing parliamentary traditions. Britain's foreign policy and European role will be discussed.

CPO 4133
Government & Politics of Canada: Examines the origins and development of Canadian government. Focuses on the functioning of federalism, nationality politics, foreign policy and relations with the United States.

CPO 4303
Comparative Latin American Politics: Comparative analysis of politics, society and culture in Latin America and selected countries of the region.

CPO 4643
Government and Politics of the Soviet Union: Study of the origins, institutions and functioning of the Soviet system, including the role of the Communist party, its influence on domestic and foreign policy formation and implementation.

CPO 6007
Seminar in Comparative Politics: Study of the institutions, functions, and problems of selected major foreign political systems and the methodology of comparative politics.

CRM 5115
Economics of Computers: PR: CIS 5012. The computer industry, terms and conditions of sale and rental, cost and effectiveness of computer systems. Determining value, demand and price of computer services.

CRM 5131
Managing the Computer Professional: PR: CIS 5012 and MAN 5051; or C.I. The programming group, team and project tasks, personality factors, motivating, training, experience.

CRW 2000
Principles of Creative Writing: An exploratory course in the several types of creative writing; group analysis of original writing; critical reading of established authors.

CRW 2100
Introduction to Fiction Writing: Practice in writing the short story; group analysis and criticism of work produced by individual students.

CRW 2300
Introduction to Verse Writing: Practice in writing poetry; group analysis and criticism of work produced by individual students.
CRW 3001 Creative Writing Workshop I: PR: C.I. Practice in established forms: essay, short story and poetry.
CRW 3002 Creative Writing Workshop II: PR: CRW 3132 or C.I. Individualized practice in writing in one of the established forms; analytic study of the work of pertinent authors.
CRW 3310 Structure of Verse: Intensive study of the structural characteristics of English, poetry, metrical systems, rhyme, scansion, and poetic rhetorical devices.

CRW 3410 Writing Scripts: Theory and practice of writing scripts for theatre, film and TV.

CRW 4940 Writing Practicum I: PR: C.I. Intensive writing practice in fiction, non-fiction, or verse.
CRW 4941 Writing Practicum II: PR: CRW 4940. Continuation of CRW 4940.

CRW 5932 Teaching Creative Writing: Creative writing practicum.

CYP 8948 Community Psychology Internship: PR: Graduate admission, 2nd year status and C.I. Supervised placement in community setting. (May be repeated for credit.)

DAA 3180 Movement as an Art Form: Analysis of creative movement techniques which increase body awareness and enhance the communicative potential the instrument of dance.

DAA 3200 Theatre Dance I: Fundamentals of Classical Ballet, includes practical class work as well as Dance History lectures.

DAA 3510 Theatre Dance II: Specific focus on American musical theatre dance forms. May be repeated for credit.

DAA 3591 Instructional Analysis of Dance and Rhythmics: An analysis of creative movement and rhythmic activity as they relate to teaching physical education K-12.

DEP 3004 Developmental Psychology: PR: PSY 2013. The effects of genetic, psychological, maturational and social factors on behavior throughout the life cycle.

DEP 3202 Psychology of Exceptional Children: Psychological problems of exceptional children including diagnosis, associated emotional problems, effects of institutionalization, special class placement, attitudes, and appropriate intervention methods.

DEP 3212 Psychological Approaches to Mental Retardation: The problems of mentally retarded citizens including diagnosis, environment versus heredity, legal restrictions, institutionalization, as well as methods of behavioral remediation.

DEP 5057 Developmental Psychology: PR: Graduate admission or C.I. Psychological aspects of development including intellectual, social and personality factors.

DHE 4101 Introductory Aerodynamics: PR: EML 4709. Basic aerodynamic analysis of wings and bodies in incompressible and compressible flows including airplane performance, stability and control.

EAS 4101 Introductory Aerodynamics: PR: EML 4709. Basic aerodynamic analysis of wings and bodies in incompressible and compressible flows including airplane performance, stability and control.


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EAS 6123  
**Advanced Aerodynamics:** PR: EAS 4101 or equivalent. Theoretical methods useful for predicting performance and stability of thin lifting surfaces and slender vehicles at subsonic, supersonic and hypersonic speeds.

EAS 6400  

ECI 3404  
**Civil Engineering Materials:** PR: C.I. The characterization of materials used in civil engineering works to include concrete, soils, bituminous, polymers and composite materials.

ECI 3603  
**Engineering and Environmental Geology:** PR: EGN 3704. Principles of physical geology with emphasis on engineering and environmental topics. Study of land forms, geologic maps, geologic structure, weathering, groundwater, mass wasting, and earthquakes.

ECI 4145  
**Construction Engineering:** PR: C.I. Project specifications, negotiations, contracts, unions, planning, insurance and safety with methods and equipment related to Civil Engineering.

ECI 4305  
**Geotechnical Engineering I:** PR: EGN 3331 and EGN 3353. Engineering properties and classification of soils. Design considerations for compaction, seepage, consolidation, and settlement analysis.

ECI 4305L  
**Geotechnical Engineering Laboratory:** PR: ECI 4305 or C.I. Fundamental geotechnical engineering experiments, classification, grain size, atterberg limits, compaction, etc.

ECI 4323  
**Civil Engineering Systems Design:** PR: CES 4605 or 4704, ECI 4305, TTE 4004 and ENV 4504. Project course on design of foundations, structures, transportation and environmental projects using engineering science and civil engineering design methodologies.

ECI 5147  
**Construction Management:** PR: C.I. Planning and Management of construction projects: CPM and PERT analysis with preparation of estimates and contract documents. Selection and economics of heavy construction equipment.

ECI 5215C  
**Hydraulic Engineering:** PR: EGN 3353. Environmental and civil engineering hydraulics application. Pipe and open channel flow, fittings, flow measurements, etc.

ECI 5306  
**Geotechnical Engineering II:** PR: ECI 4305. Continuation of ECI 4305 with emphasis on shear strength and design factors for earth pressures bearing capacity, and slope stability.

ECI 6045  
**Mathematical Modeling in Civil Engineering:** PR: C.I. Development of modeling techniques applied to the analysis of contemporary Civil Engineering problems including transportation, fluid flow, and two-dimensional continuum analysis.

ECI 6197  
**Public Works Engineering:** PR: C.I. Principles and practices, operation and maintenance, equipment, utilities, planning and design, etc.

ECI 6198  
**Regional Planning, Design, and Development:** PR: TTE 6607. Project course dealing with planning, design, and development of regional systems, including projections, case studies, design alternatives, environmental impact, etc.

ECI 6235  
**Open Channel Hydraulics:** PR: EGN 3353 or C.I. Free surface flow studies by empirical and theoretical methods for the design, operation, and management of open channels.

ECI 6324  
**Foundation Analysis and Design I:** PR: ECI 5306. Analysis and design of fundamental foundation units including spread footings, combined footings, mats, and retaining walls.

ECI 6617  
**Groundwater Hydrology:** PR: ENV 4404 or equivalent. Theories of groundwater movement, geological factors, analysis and design techniques, etc. Emphasis on practical considerations.

ECM 4114  
**Engineering Mathematical Analysis:** PR: MAC 3314 and MAP 3302. The application mathematical methods to engineering problems including vector and tensor fields, state space techniques, orthogonal curvilinear coordinates and orthogonal functions.


Mini-Computers in Engineering Systems: PR: COP 3215 or equivalent, EEL 4342 or EEL 3341C. Organization of the computer processor, memory and I/O. Assembly level programming. Input-output using programmed transfer and interrupt type I/O, Mini-computer orientation.


Microcomputer-based Monitoring and Control Systems: Machine language programming; software development aids.

Engineering Applications of Computer Graphics: PR: COP 3215, EST 4503. Introduction to the use of computer graphics, engineering applications including the use of x-y Plotter and CRT terminal hardware.

Software Engineering I: PR: COP 3215, ECM 4504 or equivalent. Design reliability, testing, and implementation of engineering software.


Discrete Systems Simulation: PR: STA 3032, COP 3215. Methods for performing discrete systems simulation, including network modeling, will be treated.


Continuous System Simulation: PR: EGN 3703 or equivalent. Use of state-space techniques, numerical integration, and CSSL programs. Laboratory assignments.

Automata Theory: PR: EEL 4342 or equivalent. Structural theory and performance characteristics of the finite-state machines.

Engineering Data Reduction: Digital analysis of multidimensional data. Applications of multi-dimensional orthogonal transforms.

Microcomputer Applications Design: PR: ECM 5505C or C.I. Advanced applications of microcomputer systems. Design of systems and software to implement a case study in microcomputer usage.

Software Engineering II: PR: ECM 5806 or equivalent; C.I. Continuation of ECM 5806. Emphasis on term projects and case studies.

Principles of Macroeconomics: A study of national income accounting and theory, unemployment, inflation, money and banking, and contemporary monetary and fiscal policy.

Principles of Microeconomics: The determination of prices in a market economy; their role in allocating consumer and producer goods in distributing incomes. Efficiency of markets and evaluation of public policies designed to improve efficiency.


Economics of the Public Sector: PR: ECO 2023. A study of fiscal institutions and decision-making and how government budgetary policy (spending, taxing, borrowing, and debt management) affects the economy and its citizens.

Economic Concepts: PR: Acceptance into the graduate program. Introduction to micro and macro economic analysis.

Statistics for Business and Economics: PR: Acceptance into the graduate program. Statistical theory and problems relating to business and economics including time series and correlation theory, index number theory and statistical inference.

Economic Analysis of the Firm: PR: Graduate standing and ECO 5055 or equivalent. Commodity price and output determination; factor price determination and functional income distribution; analysis of different types of markets.

Aggregative Economic Conditions and Analysis: PR: Graduate standing and ECO 5055 or equivalent. An analysis of aggregate economic conditions including the determination of output, employment and income levels.

Business Cycles and Forecasting: PR: ECO 5055 and ECO 6415 or equivalents, graduate standing. Use of economic tools for measuring changes in aggregate economic activity, changes in production and prices, and the use of statistical techniques.

Seminar in Money, Banking and Monetary Policy: PR: Graduate standing. Study of the structural foundation and policy making activities of the monetary authorities.

History of Economic Thought: PR: Graduate standing. A study of the leading ideas of the major contributors to the development of economic thought.

Statistical Methods for Business Decisions: PR: Graduate standing, ECO 5413 or equivalent. Multivariate models, time series models, and accompanying problems are analyzed and applied to forecast situations.

Econometrics: PR: ECO 6415 and graduate standing. The mathematical formulation of economic theories and the use of statistical procedures to measure the theoretical relationships and to verify or reject the theories.

Public Finance and Fiscal Policy: PR: Graduate standing and ECO 5055 or equivalent. Analysis of the role of government and the effects of spending, taxing, and borrowing on the economy.
**Seminar in International Economics**: PR: Graduate standing. An inquiry into the theory of international trade and finance, commercial policy and economic integration.

**Contemporary Labor Economics**: PR: ECO 2023 and ECO 2013. The analysis of labor problems and issues in a dynamic contemporary economy through the interaction of the four major institutions: households, firms, government, and unions.

**The Economics of Regulated Industries**: PR: ACC 2001, ACC 2021, or ACC 3003, and ECO 2013, or C.I. A study of the economic, legal, and administrative foundations of regulatory policy in a broad range of industries in the American economy.

**Transportation Economics**: PR: ECO 2023 and ECO 2013. Economic characteristics and governmental regulation of public carriers. Consideration of competitive relations between modes of transportation and criteria for public investment in transportation and criteria of public investment in transportation systems.

**Business, Government, and Industrial Organizations**: PR: ECO 2023 and ECO 2013. A study of the performance of industries representative of various types of market structure and practices as well as the public policies affecting these industries.

**Managerial Economics**: PR: Junior standing, ACC 2021 or ACC 3003, ECO 2023, ECO 2013 and ECO 3411. The use of economic analysis in economic decision making and business policy formulation.

**Labor Economics**: PR: Graduate standing and ECO 5055 or equivalent. An investigation into the nature and function of the labor markets, with specific concern for both institutional and non-institutional imbalance.

**Industrial Organization and Performance**: PR: Graduate standing and ECO 6111. A study of the performance of various types of market structure and practice, relative to the price and efficiency.

**Economics of Regulated Industries**: PR: Graduate standing. A study of the economic, legal, and administrative foundations of regulatory policy in a broad range of industries in the American economy.

**Economics of Urban and Regional Problems**: PR: Graduate standing and ECO 6111. Economic analysis of the problems arising from and associated with, the growth and development of cities and regions.

**Managerial Economics**: PR: Graduate standing and ECO 6111 or equivalent. The use of economic tools and methods of reasoning applied to a wide range of business and economic problems.

**Comparative Economic Systems**: PR: ECO 2023 and ECO 2013. An analysis of the fundamental institutions of the American economic system with those of socialist and command economies. Emphasis is placed on performance criteria and economic modeling.

**Economic Development**: PR: ECO 2023 and ECO 2013. The study of problems, theories and issues of economic development with reference to the third world.

**Seminar in Comparative Economic Systems**: PR: Graduate standing. An examination of factors that influence economic systems; patterns of resource allocation and income distribution in differing economic environments.

**Economic Development**: PR: Graduate standing. Analysis of theories and problems of growth and development with special attention to resource scarcity, population growth, and interaction of foreign trade and internal development.

**Organization and Administration of Schools**: PR: Certificate or C.I. School organization patterns kindergarten through junior college. Study of functions such as scheduling, staffing, community relations, design and operation of facilities, financial management.

**Legal Aspects of School Operation**: PR: 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.
EDA 6240  
Educational Financial Affairs: PR: Certificate or C.I. Theoretical and practical approaches to managing school business affairs at Central Office and individual school levels.

EDA 6260  

EDA 6502  
Organization and Administration of Instructional Programs: PR: Certificate or C.I. Purpose and functions of school learning centers, curricula, and establishment of educational priorities, review and analysis of various grouping patterns for individualizing instruction.

EDE 3942  
Junior Student Teaching—Elementary: PR: EDG 4341. Half-time student teaching assignment in an elementary school under the supervision of a certified classroom teacher.

EDE 3943  

EDE 4937  

EDE 4943  
Senior Student Teaching—Elementary: PR: EDE 3942 or EDE 3943. Senior year student teaching in an elementary school under the supervision of a certified classroom teacher.

EDE 5541  
Individualizing Instruction in the Elementary School: PR: Regular Certificate or C.I. Study of basic philosophy, organizational patterns, techniques, materials, and activities related to individualizing instruction in the elementary school classroom.

EDE 6205  
Elementary School Curriculum: PR: Regular Certificate or C.I. Analysis of the forces which shape and contribute to the vertical and horizontal curriculum designs of elementary schools.

EDF 3603  
Teaching Analysis: PR: Junior standing or C.I. Analysis of and participation in general and specific dimensions of teaching with socio-economic, historical and philosophical factors emphasized.

EDF 4003  
Overview of Education: A brief analysis of the American educational system; focusing on social, political, economic and intellectual development through an internal atmosphere of interaction and discussion.

EDF 4214  
Classroom Learning Principles: PR: Junior standing or C.I. Principles of learning as applied to classroom teaching situations with emphasis on student development, behavior, self-concept and motivation.

EDF 6155  
Lifespan Human Development and Learning: PR: Certificate or C.I. Recent research in childhood, adolescent and adult development relevant to contemporary American education. Emphasis on application of theory to educational practice.

EDF 6259  
Psychology of Classroom Behavior: PR: Certificate or C.I. Application of educational psychology to student behavior and classroom discipline. Focus on preventive management approaches and integration of theory and research with classroom practice.

EDF 6401  

EDF 6432  
Measurement and Evaluation in Education: PR: EDF 6481. Certificate or C.I. Theory and rationale of testing, instrument construction, application of test results in the educational setting, analysis of standardized tests.

EDF 6481  
Fundamentals of Graduate Research in Education: PR: Certificate or C.I. Computer applications to educational research, elementary design and data analysis, effective use of library, reading and interpreting research in education.

EDF 6517  
History and Philosophy of American Education: PR: Certificate or C.I. A critical analysis of the conceptual and operative educational systems developed in the United States of America.
EDF 6608  
**Social Factors in American Education and Comparative Education:** PR: Certificate or C.I. Analysis of general and specific aspects of American education as they relate to Social and Behavioral Sciences.

EDG 4324  
**Teaching in the Schools:** PR: Teaching Strategies or C.I. Selected dimensions of teaching and teaching skills; exceptional children; classroom management; school organization; professional ethics; parent-teacher interaction; reading in the content areas; community resources.

EDG 4341  
**Teaching Strategies:** Analysis of the learning environment; emphasis on planning for instruction, media, and materials development; measurement and evaluation.

EDG 4941  
**Directed Field Experience:** PR: Approval of Professional Laboratory. Field experience in an appropriate educational setting under the direction of a supervising teacher and/or university supervisor.

EDG 6337  
**Techniques of Game Use in Education:** PR: Certificate or C.I. Analysis, development, and use of educational games as an approach to classroom teaching and learning.

EDG 6940  
**Graduate Internship:** PR: Approval of Professional Laboratory. Internship in an appropriate educational setting under the direction of a qualified supervisor and/or university supervisor.

EDP 3004  
**Educational Psychology:** PR: PSY 2013. Application of psychological principles and research methods to classroom behavior and learning.

EDS 5356  
**Supervision of Professional Laboratory Experiences:** PR: C.I. Study of the undergraduate professional laboratory experiences program with emphasis on the role and responsibilities of the Teacher Education Associate or Supervising Teacher.

EDS 6111  
**Administration and Supervision of Staff Development:** PR: Regular 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.

EDS 6123  
**Education Supervisory Functions:** PR: Certificate or C.I. Analysis of school supervisory functions in human relations, leadership, personnel administration, and in-service education for instructional improvement.

EDS 6130  
**Educational Supervisory Techniques:** PR: Regular Certificate or C.I. and EDS 6123. Development of techniques in observation, group processes, communication, and evaluation for assessment of school personnel and programs.

EEC 4204  
**Early Childhood Screening and Curriculum Development.** A study of screening requirements and procedures; kindergarten through grade three; preventive, development, and enrichment materials and strategies; perception and readiness; organization; teacher-aides.

EEC 5205  
**Programs in Early Childhood Education:** PR: Regular Certificate or C.I. Philosophy, content, facilities, instructional materials, and activities appropriate for children ages 3, 4 and 5; current research; new curricula. Concurrent laboratory experiences.

EEC 5206  
**Organization of Instruction in Early Childhood Education:** PR: Regular Certificate or C.I. Organization in instruction and techniques in areas relating to language arts, social sciences, sciences, mathematics, health and physical education, problems relating to reading readiness, perception and cognition. Concurrent laboratory experiences.

EEC 5208  
**Creative Activities in Early Childhood:** PR: Regular Certificate or C.I. Organization of instruction and methods for creative activities involving music, art, literature and educational toys, integration of activities and basic skills curriculum. Concurrent laboratory experience.

EED 5071  
**Behavior Disorders in Schools:** PR: Regular Certificate or C.I. Assessment/analysis of behavior disorders, cause and effects, identification, and theories.

EED 6215  
**Development of a Personalized Program for Children with Behavior Disorders:** PR: Regular Certificate or C.I. Study of various approaches to use in teaching children with behavior disorders, including precision teaching, behavior management techniques, and interpersonal communications skills.
EED 6247 Educational Programming for Children with Behavior Disorders: PR: Regular Certificate or C.I. A study of existing models and theories of educational programs for children with behavior disorders.
EEL 3307C Electronic Engineering: PR: EGN 3375 and MAP 3302. Electronic devices and circuits design including small signal amplifiers, and switching circuits.
EEL 3470 Electromagnetic Fields: PR: EGN 3373L and MAP 3302. Introduction to electric and magnet fields and electromagnetic waves.
EEL 4342C Introduction to Digital Circuits and Systems: PR: EGN 3383 or C.I. Switching theory and devices. Combinational and sequential logic. Logic design using standard components such as ROM, arithmetic units, multiplexers, registers and counters.
EEL 4343C Sequential Circuits and Systems: PR: EEL 4342C or C.I. Synchronous and asynchronous circuits, compatible states, hazards, races, and state equivalence and minimization techniques. Applications to design of synchronous sequential systems.
EEL 4430C Microwaves: PR: EEL 3470. Microwave devices and systems and measurement techniques.
EEL 4512C Communication Systems: PR: STA 3032, EEL 3552 and EEL 3307C. Information transmission, modulation, and noise; design and comparison of communication systems in the presence of noise.
EEL 4570C Data Communications Engineering: PR: EEL 4701 or ECM 4504. Analysis, design and operation of Data Communications Engineering. Applications in remote computing networks and process monitoring.
EEL 4701C Digital Systems Organization: PR: EEL 4342C. The study of basic machine organization, operation, and subsystem integration. System investigation and design using a register transfer and control-sequence design language.
EEL 4702C Digital Systems Design: PR: EEL 4701C or C.I. Continuation of EEL 4701C. Microprocessor and LSI based approaches to the design of digital systems. Current topics in the design of control communications, and display systems.
EEL 5173 Signal and System Analysis: PR: EEL 3122. Difference equations, transform techniques, state variables applied to continuous and discrete systems.
EEL 5260 Electric Power Generation and Distribution: PR: EGN 3375 or equivalent. Concept of complex power in single and three phase systems. Synchronous machines, power transformer, and transmission lines system design.
EEL 5365 Introduction to Digital Systems: PR: EEL 4342 or equivalent. Analysis and synthesis of combinational, synchronous and asynchronous sequential logic circuits. Introduction to controller design using a digital design language.

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<thead>
<tr>
<th>Course Code</th>
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<th>Prerequisites</th>
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<tbody>
<tr>
<td>EEL 5441</td>
<td>Coherent Optics Applications</td>
<td>PR: PHY 3421 and EEL 3470 or C.I. Coherent optical radiation and propagation. Design and analysis of optical components and systems.</td>
</tr>
<tr>
<td>EEL 5505</td>
<td>Digital Signal Processing I</td>
<td>PR: EEL 3122 or C.I. Sample data models via Laplace and Z-transforms, digital filter synthesis, discrete Fourier Transforms and fast Fourier Transform algorithms.</td>
</tr>
<tr>
<td>EEL 5542</td>
<td>Random Processes</td>
<td>PR: EEL 3122 and STA 3032. Elements of probability theory; random variables, and stochastic processes.</td>
</tr>
<tr>
<td>EEL 5630</td>
<td>Modern Control Design</td>
<td>PR: EGN 4714 or C.I. State space representation of dynamic systems, the transition matrix, linearization of systems, optimal control.</td>
</tr>
<tr>
<td>EEL 6144</td>
<td>Synthesis of Electric Filters</td>
<td>Analysis and design of electric filters.</td>
</tr>
<tr>
<td>EEL 6371</td>
<td>Amplifier Design</td>
<td>Small signal device models; analysis and synthesis of electronic amplifier circuits in frequency and time domains.</td>
</tr>
<tr>
<td>EEL 6372</td>
<td>Operational Amplifiers</td>
<td>The design of the differential amplifier stage, multi-staging, linear circuit applications, uses in non-linear circuits, active filters.</td>
</tr>
<tr>
<td>EEL 6502</td>
<td>Digital Processing of Signals II</td>
<td>PR: EEL 5505 or C.I. Continuation of digital filter synthesis, multi-dimensional processing, processor hardware implementations, applications of digital filtering and FFT processors.</td>
</tr>
<tr>
<td>EEL 6504</td>
<td>Communication Systems Design</td>
<td>PR: EEL 6530 or C.I. Signal detection, linear estimation (including Weiner-Kalman Filtering); and application topics such as Spread Spectrum and diversity techniques, computer communication, data communication via fading channels.</td>
</tr>
<tr>
<td>EEL 6530</td>
<td>Communication Theory</td>
<td>PR: EEL 5542 or C.I. Communication in the presence of noise, modulation and demodulation; use of phase lock loop; digital data transmission, optimum receivers, introduction to information theory.</td>
</tr>
<tr>
<td>EEL 6560</td>
<td>Optical Electronics</td>
<td>PR: EEL 5441 or C.I. Introduction to optical electronic systems design, such as both gas and solid state laser systems, optical detectors, modulators, and frequency converters. Optical communication systems.</td>
</tr>
<tr>
<td>EEL 6561</td>
<td>Fourier Optics</td>
<td>Application of Fourier Transform theory to optical systems design. Development of optical correlation techniques. Holographic techniques and applications.</td>
</tr>
<tr>
<td>EEL 6717</td>
<td>Digital Computer Systems</td>
<td>PR: EEL 6349 or C.I. Analysis of special purpose computer elements, computers, and computer systems. Microprocessor based systems, systems with one or more central or I/O processors, networks of computers.</td>
</tr>
<tr>
<td>EES 3104</td>
<td>Environmental Engineering Biology</td>
<td>PR: EGN 3704. Principles of biology applicable to the engineering design of water supply and treatment, wastewater treatment and disposal, waste degradation and environment quality control.</td>
</tr>
<tr>
<td>EES 4202</td>
<td>Chemical Process Control</td>
<td>PR: EGN 3703. Engineering design, measurements, and analysis of chemical systems in environmental engineering to control treatment processes such as softening, coagulation, disinfection, scrubbing, neutralization and others.</td>
</tr>
</tbody>
</table>
EES 4204
Biological Process Control: PR: EGN 3703. Engineering design, measurements and analysis of biological systems in environmental engineering for water management, bio-energy products, wastewater treatment and others.

EES 4404
Environmental Health: PR: EGN 3704. Topics and design examples in industrial hygiene, occupational and radiological health hazards, and pollution effects, such as those due to air noise, solid wastes, etc.

EES 5210
Potable Water Treatment: PR: EES 4202 and 4204. Engineering application of potable water chemistry involving coagulation, softening, filtration, corrosion, disinfection quality and drinking water.

EEX 5051
Exceptional Children in the Schools: PR: Senior Standing or C.I. Characteristics, definitions, educational problems, and appropriate educational programs for the exceptional children in schools.

EEX 5105
Educational Implications for the Speech and Language Disorders of Exceptional Children: PR: Regular Certificate or C.I. Identification, evaluation, interpretation, and planning appropriate learning experiences to aid exceptional children with speech, hearing, and language disorders.

EEX 5215
Psycho-educational Appraisal of Exceptional Children: PR: Regular Certificate or C.I. Selection of performance objectives, diagnostic measures, prescriptive teaching programs, and progress evaluation procedures for individualizing instruction.

EEX 5863
Supervised Teaching Practicum with Exceptional Students: PR: Bachelor's degree, approved program, and C.I. Supervised observation and teaching of an exceptional student.

EGC 5005
Introduction to Guidance and Human Services: PR: Completion of Phase II of Educ. Prof. Prep. or Certificate or C.I. A basic course presenting an overview of the philosophy, organization, administration and operation of guidance and human services.

EGC 5033
Guiding Human Relationships: PR: Senior standing or Certificate. A course to teach human relationship skills which will enhance intra- and inter-personal relating skills.

EGC 6215

EGC 6225

EGC 6235
Procedures for Group Testing: PR: EDF 6432 or C.I. Survey of various educational and psychological objective instruments used in schools to measure achievement, aptitude, Interests, ability. Emphasis on administration and score interpretation.

EGC 6317
Vocational and Career Development Procedures: PR: Certificate. Forces which affect career choice and shape personal development, vocational counseling, career education, and parent-student-school inter-relationships.

EGC 6435
Theories of Individual Counseling: PR: EGC 5005 or C.I. Major theories and approaches to school counseling, correlating them with counterpart theories of personality and learning.

EGC 6436
Techniques of Counseling: PR: EGC-5005, EGC-6435 or C.I. The nature of the counseling relationships to theoretical concepts.

EGC 6446
Counseling Practicum in Schools: PR: EGC 5005, 6435, 6436 or C.I. Supervised counseling emphasizing competence in (1) individual counseling; (2) working with groups; (3) tests in education-vocational personal counseling. May be repeated for credit.

EGC 6500
Guidance and Counseling of Gifted/Talented Individuals: Guidance and counseling procedures and strategies for gifted/talented students; self-assessment; group dynamics; communication with parents; career goals; alternate educational opportunities.
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<tbody>
<tr>
<td>EGC 6505</td>
<td>Group Procedures in Counseling</td>
<td>PR: Certificate. EGC 5005 or EGC 6435 or C.I. Nature, theory, process of group counseling including study of dynamics related to change in values and behavior of children and adolescents; class demonstration and practice.</td>
</tr>
<tr>
<td>EGI 6051</td>
<td>Understanding the Gifted /Talented Student</td>
<td>A study of characteristics of the gifted/talented students; theories and research; identification procedures; special problems; educational forces.</td>
</tr>
<tr>
<td>EGI 6245</td>
<td>Program Planning and Methodology for Gifted/Talented Students</td>
<td>A study of organization, curriculum, strategies, and activities for the gifted/talented student; diagnostic teaching; learning-teaching strategies; instructional materials; individualized instruction.</td>
</tr>
<tr>
<td>EGI 6941</td>
<td>Supervised Practicum with Gifted/Talented Students</td>
<td>PR: EGI 6051, EGI 6245 and C.I. Supervised observation and teaching of student identified as gifted/talented.</td>
</tr>
<tr>
<td>EGN 1380</td>
<td>Chemical Foundations of Engineering</td>
<td>PR: Satisfactory performance in one year of high school chemistry; CR: MAC 2154. Engineering applications of basic chemical concepts. Atomic and molecular structure, states of matter and their energies, chemical equilibria and reaction rates, organic compounds and industrial processes.</td>
</tr>
<tr>
<td>EGN 1510</td>
<td>Introduction to Engineering</td>
<td>PR: C.I. Role of the engineer as a creative design professional. Emphasis on understanding the creative process and the factors that influence it. Engineering orientation and case studies.</td>
</tr>
<tr>
<td>EGN 2382</td>
<td>Engineering Concepts</td>
<td>PR: MAC 3311. Introduction to the basic phenomena essential to understanding of engineering structures, machines processes and systems. Primary emphasis on mechanics, materials behavior, and thermofluid mechanics phenomena.</td>
</tr>
<tr>
<td>EGN 3311</td>
<td>Engineering Analysis-Statics</td>
<td>PR: EGN 2382 and MAC 3312. Fundamental concepts of mechanics including resultants of force systems, free-body diagrams, equilibrium of rigid bodies and analyses of structures.</td>
</tr>
<tr>
<td>EGN 3313C</td>
<td>Engineering Analysis-Dynamics</td>
<td>PR: EGN 3311 and MAC 3313. Kinematics and kinetics of particles and rigid bodies; mass and acceleration, work and energy and impulse and momentum.</td>
</tr>
<tr>
<td>EGN 3353C</td>
<td>Fluid Mechanics</td>
<td>PR: MAP 3302; CR: EGN 3343. Basic principles of continuum fluid mechanics and transport concepts.</td>
</tr>
<tr>
<td>EGN 3375</td>
<td>Electrical Devices and Systems</td>
<td>PR: EGN 3373C. Continuation of EGN 3373C. Electronic circuits, devices, and systems.</td>
</tr>
</tbody>
</table>
EGN 3383  Electrical Science: PR: EGN 2382; CR: MAC 3313. General concepts of electricity and magnetism; the development of fundamental laws of electrical engineering; the introduction of the basic circuit elements.


EGN 3704  Engineering and the Environment: PR: EGN 1380 and Junior standing. Man's interaction with the air, water and land environment and the role of engineering in control of this environment for the benefit of mankind.

EGN 4032  Professionalism, Practice and Ethics: PR: Junior or senior standing. Study of the professional engineer's role, practice and responsibility to act in the interests of public health, safety and welfare.

EGN 4033  Technology and Social Change: Review of existing theories of social change, analysis of the role of technology as related to social change, and study of contemporary events in technology and their possible impact on society.

EGN 4624  Engineering Administration: PR: EGN 3613 and senior standing. Engineering organization and administration; delegation of authority and responsibility; effective use of resources; project management; R and D planning; ethics in professional practice.

EGN 4634  Operation Research: PR: STA 3032. Mathematical methods of operations research; linear programming, techniques of optimization.

EGN 4714  Linear Control Systems: PR: MAP 3302 and EGN 3375C. Theoretical and experimental study of the dynamics of linear, lumped parameter models of mechanical, electrical, fluid, and thermal systems as applied to control systems and design applications.

EGN 4813  Science in History: Examination of the reciprocal relations of science and society from ancient to recent times.

EGN 4814  Engineering and Technology in History: Important developments in engineering and technology and their effect on society and our socio-economic processes.

EGN 4815  Historical Architecture: Architecture as the realization of changing aesthetic and cultural ideals and the expression of changing forms of society. Development of understanding of our physical environment through a study of the forms, functions and determinants of architecture.

EGN 4823  Topics in Urban Development: Production, distribution and consumption of various commodities. Engineering relationships to distribution, internal structure, function of urban developments. Inter-relationships of engineering, social, economic and cultural phenomena.

EGN 4824  Energy and Man: Investigation of the forms of energy available; energy resources versus requirements in a technological society of increasing population problems; solutions and future predictions.

EGN 4825  Man and Environment: PR: C.I. Environmental factors of importance to man, man's interaction with the environment, engineering and non-engineering measures to insure improvement and maintenance of environmental quality. Not for engineering students.


EGN 4843  Systems Modeling: PR: COG 1100 or equivalent. Representation of man/machine systems through analytic and computer-based models. Case studies in the analysis and improvement of systems in industry, education and government.

EGN 4844  Man and Machine: The influence and interrelationship of invention and technical progress on the evolution of social forms and institutions.
EGN 5034  Engineering and Public Works: PR: C.I. The purposes, function, and role of engineering within public works.

EGN 5035  Topics in Technological Development: PR: C.I. Case studies of selected topics in the engineering and technological development of western civilization. The weight-driven clock, steam engine, electric power, radar, electronics, etc.


EIN 3106  Engineering Law: PR: Junior standing. Influence of contract, property and tort law, upon engineering activities; contracts, agency, partnerships, corporations, liens and expert testimony. Patents and licensing.


EIN 4116  Industrial Information Systems: PR: COP 3215, EIN 4332. Study of computerized information systems applied in industrial environment. Emphasis on development of automated information systems for control of men, materials and equipment.

EIN 4118  Industrial Engineering Applications of Computers: PR: COP 3215. Survey of computer methods in industrial engineering practice. Topics include simulation, information systems, dedicated processors and computer assisted manufacturing. Lab exercises.

EIN 4142  Industrial Engineering Senior Project Design: PR: Senior standing. Capstone design course, application of IEMS techniques to real problems via case studies.

EIN 4214  Safety Engineering and Administration: Analysis of accidents in the industrial operating environment. Application of fault trees, OSHA requirements. Consideration of accident costs and organizational aspects of accident prevention.

EIN 4243  Human Engineering: PR: Senior standing. Man-machine systems; design and conduct of human engineering studies.

EIN 4251C  Automation: PR: Senior standing in Engineering. Introduction to automation through mechanization, numerical control and computer assisted manufacturing.

EIN 4264  Industrial Hygiene and Occupational Health: Identification and analysis of health hazards in the industrial environment. Occupational hazard control via engineering design and safety programs.

EIN 4332  Industrial Control Systems: PR: STA 3032. Decision rules in industrial environment including mathematical and economic models of forecasting, scheduling, order, quality and inventory control.

EIN 4384C  Industrial Facilities Planning and Design: PR: EIN 3315. Comprehensive design of industrial production systems including interrelationships of plant location, process design, and materials handling. Laboratory assignments.


EIN 4391C  Manufacturing Engineering: PR: EGN 3363, EGN 3331. Introduction to manufacturing engineering materials and processes emphasis on broad spectrum of processes including casting, forming, joining, machining of metals, and non-metals and the design to manufacture relationship.

EIN 5117  Management Information Systems I: PR: EIN 4116 or C.I. The design and implementation of computer-based Management Information Systems. Consideration is given to the organizational, managerial and economic aspects of MIS.

EIN 6140  Project Engineering: PR: C.I. Role of engineer in project management, emphasis on qualitative and quantitative techniques in planning, organization, supervision, control of projects from conceptual design to field installation; applications via term project.
EIN 6215  System Safety: PR: EIN 4214 or C.I. Concepts of system safety as applied to the recognition, evaluation and prevention or control of hazards in industry. Fault free analysis and risk management.

EIN 6248  Human Engineering II: A continuation of EIN 4243 with emphasis on special projects and physiological factors appropriate to the industrial setting.

EIN 6258  Man-Computer Interaction: PR: EIN 4243 or C.I. The elements of man-computer interactive systems; hardware and software considerations; requirements of CAI, CAD, and MIS applications; design difficulties found in these systems.

EIN 6305  Engineering Administration II: PR: EGN 4624. A continuation of EGN 4624 with emphasis on the manufacturing and industrial enterprise.


EIN 6337  Production & Inventory Control: PR: EIN 4332 or equivalent. Review of models and techniques used in forecasting, production control and inventory control. Includes aggregate planning, production scheduling, inventory management, models, etc.

EIN 6351  Mathematical Programming Models for Engineering Economic Analysis: PR: EIN 6357; ESI 6316. Extension of EIN 6357 to explore the development and application of mathematical programming in the related area of capital and resource allocation.

EIN 6357  Advanced Engineering Economic Analysis: 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.


EIN 6418  Public Works Economics: PR: EGN 3613 or equivalent. Economic considerations in public works planning. The nature and objective functions of public works projects; cost estimating, cost allocation and pricing. Cost/benefit analysis on primary and secondary benefits from public works projects.

EIN 6942  Industrial Design Practicum: Analysis of real world operational problems using IEMS techniques via selected field studies.

ELD 6112  Foundation and Diagnosis of Learning Disabilities: PR: Regular Certificate or C.I. A study of the history, definition, causes, characteristics and current issues; consideration of diagnostic tests, materials and procedures.

ELD 6304  Management and Teaching Strategies for the Learning Disabled Student: PR: "Found/Diagnosis LD" or C.I. Prescriptive programming of teaching and management techniques based on a diagnosis of basis skill areas of learning disabled child.

ELD 6944  Diagnostic Learning Disabilities Laboratory: A laboratory designed for individual competence measurement of testing-evaluation skills. Must be scheduled concurrently with "Foundations and Diagnosis of LD."


EMA 5626  Mechanical Metallurgy: PR: EML 3234 or C.I. Recent advances in the microscopic understanding of the mechanisms in strengthening, fracture, fatigue, and creep of metals and alloys.

EMA 6126  Physical Metallurgy: PR: EML 3234 or C.I. Thermodynamics and kinetics of nucleation and growth reactions to metallurgical processes with special emphasis on nucleation in solids. Diffusion theory. Point, line and surface defects.

EME 5208  Media and Methods in Teaching: PR: Regular Certificate or C.I. Practicum on various media in the classroom with emphasis on student film making and production.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EME 8813</td>
<td>Instructional System Design</td>
<td>Systematic design of instruction including task analysis, learner analysis, needs assessment, content analysis, specification of objectives, media selection, evaluation and revision. Analysis of ID models.</td>
</tr>
<tr>
<td>EML 3106</td>
<td>Thermodynamics of Mechanical Systems</td>
<td>PR: EGN 3343. Applied thermodynamics, availability analysis, thermodynamics of reactive and non-reactive mixtures, thermodynamic relations of properties. Thermodynamic design analysis of complete mechanical systems.</td>
</tr>
<tr>
<td>EML 3262</td>
<td>Kinematics of Mechanisms</td>
<td>PR: EGN 3321. Graphical, mathematical, and computer-aided kinematics, analysis, and synthesis of basic mechanisms.</td>
</tr>
<tr>
<td>EML 3502</td>
<td>Machine Design and Analysis</td>
<td>PR: EGN 3331, EML 3262. Application of the principles of mechanics of materials to the design of mechanical elements.</td>
</tr>
<tr>
<td>EML 4272</td>
<td>Dynamics of Machinery</td>
<td>PR: EML 3262, EML 4222. Critical speeds and response of flexible rotor systems, whirl, gyroscopic effects; balancing of rotating and reciprocating masses; cam dynamics.</td>
</tr>
<tr>
<td>EML 4411</td>
<td>Mechanical Power Systems</td>
<td>PR: EML 3106. Analysis and design of large power generating systems and components with emphasis on steam plants utilizing both chemical and nuclear fuels.</td>
</tr>
<tr>
<td>EML 4412L</td>
<td>Mechanical Engineering Laboratory</td>
<td>PR: EML 3303; CR: EML 4142. Experimental studies of phenomena and performance of fluid flow, heat transfer, thermodynamic and mechanical power systems.</td>
</tr>
<tr>
<td>EML 4505</td>
<td>Engineering Design</td>
<td>PR: EML 3106, 3502. Application of the design process in the solution of a state of the art problem. Fluid, thermal or mechanical problems are considered.</td>
</tr>
<tr>
<td>EML 4535</td>
<td>Computer-Aided Design</td>
<td>PR: EML 3106, 3502. Introduction to computational methods in mechanical and thermal systems design.</td>
</tr>
<tr>
<td>EML 5228</td>
<td>Acoustics</td>
<td>PR: MAP 3302, PHY 3421. Elements of vibration theory and wave motion; radiation, reflection, absorption, and transmission of acoustic waves; architectural acoustics; control and abatement of environmental noise pollution; transducers.</td>
</tr>
<tr>
<td>EML 5271</td>
<td>Intermediate Dynamics</td>
<td>PR: EGN 3321, 3331. Dynamics of particles, distributed mass systems, and rigid bodies from an advanced viewpoint. Virtual work. Lagrange's and Euler's equations. Hamilton's principle.</td>
</tr>
<tr>
<td>Course Code</td>
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<td>Description</td>
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<tr>
<td>EML 5451</td>
<td>Energy Conversion</td>
<td>PR: EGN 3343 and PHY 3101. Unconventional methods of energy conversion; particular emphasis on fuel cells, thermoelectrics, thermonics, solar energy, photovoltaics and magnetohydrodynamics.</td>
</tr>
<tr>
<td>EML 5453</td>
<td>Energy Analysis</td>
<td>PR: Consent of instructor. Examination of energy demands and potential supply, computer simulation of resource depletion, alternate energy resources, transportation systems, economic and environmental constraints.</td>
</tr>
<tr>
<td>EML 5455</td>
<td>Energy Conservation</td>
<td>PR: EML 4142. Analysis of energy use in economic sectors and design of conservation methodologies to reduce energy use. Heating and cooling loads, passive building designs will be presented.</td>
</tr>
<tr>
<td>EML 5457</td>
<td>Environmental Thermodynamics</td>
<td>PR: EML 3106. Thermodynamics of the environment emphasizing analysis and design of thermal systems. Building heating and cooling load calculations and energy conservation technologies analyzed.</td>
</tr>
<tr>
<td>EML 5458</td>
<td>Classical Thermodynamics</td>
<td>PR: EML 3106 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.</td>
</tr>
<tr>
<td>EML 5461</td>
<td>Conduction Heat Transfer</td>
<td>PR: EML 4142. Classical and numerical techniques applied to the solution of steady and transient conduction problems. Applications to the design of thermal systems.</td>
</tr>
<tr>
<td>EML 5462</td>
<td>Convection Heat Transfer</td>
<td>PR: EML 4142. Convection heat, mass and momentum transfer in laminar and turbulent flows. Applications to the design of thermal systems.</td>
</tr>
<tr>
<td>EML 5463</td>
<td>Radiation Heat Transfer</td>
<td>PR: EML 4142. Radiation properties and analysis of radiation heat transfer problems. Applications to the design of thermal systems.</td>
</tr>
<tr>
<td>EML 5466</td>
<td>Advanced Engineering Instrumentation</td>
<td>PR: EML 3303 or equivalent. Theoretical and experimental study of principles of operation, analysis and design techniques for systems of a mechanical and electromechanical nature.</td>
</tr>
<tr>
<td>EML 5467</td>
<td>System Control</td>
<td>PR: EGN 4714 or equivalent. Theoretical, experimental and computer methods involved in the design of control systems. Emphasis on non-linear system and advanced methods for control system analysis and optimization.</td>
</tr>
<tr>
<td>EML 5468</td>
<td>Turbomachinery</td>
<td>PR: EAS 4300 or EML 4411 or equivalent. Application of the principles of fluid mechanics, thermodynamics and aerodynamics to the design and analysis of pumps, compressors, and turbines.</td>
</tr>
<tr>
<td>EML 5469</td>
<td>Experimental Mechanics</td>
<td>PR: EML 3303. Selected topics in photoelasticity, application of holography to the determination of vibration modes, measurement of correlation and coherence functions, transfer functions and acoustic emission.</td>
</tr>
</tbody>
</table>
Principles of Design: PR: CES 5102, EML 5271 or C.I. Morphology of design, introductory decision theory, reliability analysis and safety factors, strength optimization, probabilistic aspects and advanced topics in machine design.


Computer-Aided Design: PR: CES 5102 or C.I. Theory, application and implementation of digital computer oriented algorithms for the synthesis, simulation, analysis and design of mechanical systems.

Advanced Gas Dynamics: PR: EML 4709 or C.I. Analysis of steady and subsonic, supersonic and hypersonic flows. Aerodynamic applications to the design of nozzles, diffusers, and high speed wind tunnels.

Mechanics of Viscous Flow: PR: EGN 3353, ECM 4114 or C.I. Principal concepts and methods for viscous fluid motion. Incompressible and compressible boundary layer analysis for laminar and turbulent flows.

Fundamental Concepts and Educational Procedures Related to Mental Retardation: PR: Regular Certificate or C.I. A study of retardation groupings, educational and community provisions, history of services, and learning characteristics of EMR, PMR, TMR.

Career Planning for the Mentally Retarded: PR: Regular Certificate or C.I. Instruction and practice in career planning with specific activities in homemaking skills, industrial arts, and job exploration.

Classroom Organization and Curriculum for Teaching the Mentally Retarded: PR: Regular Certificate or C.I. Organization, scheduling, materials, equipment, instructional procedures, appropriate curriculum experiences and adjustments, media use, and development prevocational skills for EMR, TMR, and PMR.

Basic Writing: PR: C.I. A course in basic English writing to provide intensive practice in writing effective sentences and paragraphs.

Vocabulary Study: Planned expansion of work skills joined with contextual practice.

Composition I: Expository writing with emphasis on effective communication. Writing topics to be based on selected readings.

Composition II: PR: ENC 1101. Researching and writing document reports; writing based on analysis of literature.

Note on Freshman English Program: ENC 1101 and 1102 must be taken before enrolling in any English course numbered above 1102.

Professional Reporting Writing I: Emphasis on clear expository writing of memoranda, reports and articles in the student's particular field.

Professional Report Writing II: Instruction and practice in scientific writing including preparation of scientific reports in the student's particular field.

Writing Skills: Intensive practice in description narration, exposition and argumentation; control of tone, mood, viewpoint, and level of diction. Applicable to article, essay, and short-story writing.

Expository Writing: Practice of expository writing directed to general reader.

Magazine Writing I: PR: ENC 3310 or C.I. Structure and organization of articles, essays, profiles, and reviews, market analysis; data gathering—may be repeated for credit.

Practical Criticism: Student evaluation of selected fiction, poetry and drama through practical exercises in literary criticism.
ENG 5028  AS 3(3,0)
Rhetoric and Literature: Investigates the development of written strategies of persuasion. Traces their relation to practical and imaginative literature. Applications to classroom teaching of literature and composition.

ENG 6018  AS 3(3,0)
Literature of the Modern Period: Historical survey of major critics from classical antiquity to the modern era.

ENG 6021  AS 3(3,0)
English Literature I: Beowulf to 1660.

ENG 6023  AS 3(3,0)
English Literature II: From 1660 to 1870.

ENG 3273  AS 3(3,0)
Survey of British Literature Since 1914.

ENL 3334  AS 3(3,0)
Shakespeare Texts and Film: An introduction to the art of William Shakespeare through comparative analysis of selected plays and their representation in film.

ENL 4101  AS 3(3,0)
English Novel: Analysis of major English novelists.

ENL 4311  AS 3(3,0)
Chaucer: The Canterbury Tales, Troullus and Criseyde, and other works

ENL 4330  AS 3(3,0)
Shakespeare Studies: Reading, analysis, and discussion of Shakespeare's plays. May be repeated for credit.

ENL 4341  AS 3(3,0)
Milton: Paradise Lost, Paradise Regained, Samson Agonistes, shorter poems and selected prose.

ENL 4353  AS 3(3,0)
18th Century Studies: Reading, analysis and discussion of literature in English: 1660-1860. May be repeated for credit.

ENL 4373  AS 3(3,0)
Modern British Literature: Major writers of modern British literature.

ENL 5176  AS 3(3,0)
Restoration and 18th Century English Drama

ENL 5226  AS 3(3,0)
Studies in Renaissance Non-Dramatic Literature: The Renaissance by an examination of the poetry and prose of its major figures.

ENL 5236  AS 3(3,0)
The Age of Dryden and Pope: Prose, poetry, drama and literary traditions of British neoclassicism.

ENL 5335  AS 3(3,0)
Studies in Shakespeare: A selection of representative plays with emphasis on Shakespeare's development as an artist: aesthetics of dramatic literature.

ENL 5347  AS 3(3,0)
The Age of Milton: Emphasis on the non-dramatic works of John Milton. Selections from the non-dramatic works of other 17th Century figures.

ENU 4005  EN 3(3,0)

ENU 4103  EN 3(3,0)
Nuclear Engineering: PR: EGN 3343 and PHY 3101. Introduction to the principles of nuclear engineering, nuclear chain reactions, reactor systems and control, health physics, radiation shielding and applications of nuclear energy.

ENV 4119  EN 3(2,2)

ENV 4355  EN 3(3,0)
Solid and Hazardous Wastes: PR: EGN 3704 or C.I. Engineering design, planning, and analysis problems associated with storage, collection, processing, and disposal of solid and hazardous wastes.

ENV 4404  EN 4(4,0)
Hydrology and Hydraulics: CR: EGN 3353. Water resources, hydrologic cycle, runoff predictions, pipe flow, open channel flow, flow measurements, pumps, storage, and engineering design applications.

ENV 4434  EN 2(1,2)
Environmental Engineering Systems Design: PR: ENV 4404 and 4504 or C.I. Planning capacity and design of water distribution systems, sanitary sewerage, storm drainage systems, water and wastewater treatment plants, solid waste and atmospheric controls.

Urban Systems Engineering: PR: C.I. Theories and history of city development with administrative, planning, management and maintenance of municipal services.

Environmental Impact Assessment: PR: C.I. Evaluation, estimating, and predicting the effects of structures, processes, and systems upon the environment and the effects of environmental changes upon human populations.


Physical/Chemical Treatment Systems in Environmental Engineering: PR: ENV 4404. Theory and design of physical and chemical operations and processes in environmental engineering using latest technologies.

Biological Treatment Systems in Environmental Engineering: PR: ENV 4504. Theory and design of biological operations and processes in environmental engineering using the latest technologies.

Unit Operations and Processes Laboratory: PR: EES 5206 or C.I. Laboratory exercises in physical, chemical, and biological processes applicable to design.

Atmospheric Pollution Control: PR: ENV 4119 or C.I. Atmospheric composition and dynamics, sources and nature of contaminants, toxicity thresholds and biological significance, engineering methods of measurement design and control.

Solid Wastes Management: Study of the extent and characteristics of the solid waste problem, collection and disposal systems, environmental modeling and selected designs.

Water and Wastewater Systems Design: PR: ENV 4404 and 4504 or C.I. Project course on design of water and wastewater systems.

Industrial Waste Treatment: PR: ENV 4404 and 4504 or C.I. Theories and methods of management, reduction, treatment, and case studies of major industrial waste problems will be studied.

General Entomology: PR: ZOO 1010C. Introduction to insects; their identification, biology and ecology.

Junior Student Teaching—Secondary Level: PR: EDG 4341. Junior year student teaching in a secondary school under the supervision of a certified classroom teacher.

Senior Student Teaching—Secondary Level: PR: ESE 3940 or EDE 3942. Senior year student teaching in a secondary school under the direction of a certified classroom teacher.

Secondary School Curriculum Improvement: PR: Regular Certificate or C.I. Secondary School self studies for curriculum projects, accreditation reports, or staff development.

Teaching the Non-English Student: PR: FLE 3063 or Bilingual and nonlinguistic instruction in curriculum areas and in English as a second language.

Curriculum Writing: PR: Regular Certificate or C.I. Goal analysis, task analysis, needs assessment and writing performance objectives for developing courses of study.

Curriculum Design: PR: Graduate standing or C.I. The foundations, constituent parts, design, development, and implementation of change, in public school and curriculum.

Curriculum Evaluation: PR: Graduate standing or C.I. Application of curriculum evaluation techniques to instructional programs.

ESI 4234
Engineering Reliability and Quality Assurance: PR: STA 3032 or C.I. Design and management of reliability programs and quality assurance systems; mathematics of reliability.

ESI 4314
Quantitative Techniques in Industrial Engineering: PR: EGN 4634 and STA 3032. Extension of EGN 4634 and STA 3032 with primary emphasis on O.R. and statistical applications to industrial engineering problems.

ESI 4524
System Simulation with Digital Computers: PR: COP 3215 or equivalent. Methods and procedures for simulating large scale systems with digital computers. FORTRAN, CSMP and GPSS programming languages are used.

ESI 5575

ESI 8216

ESI 8336

ESI 8427
Mathematical Programming I: PR: EGN 4634. Theory and applications of linear, non-linear and goal programming techniques.

ESI 8437
Mathematical Programming II: PR: ESI 6427. Continuation of ESI 6427.

ESI 8525
Systems Dynamics: PR: COP 3215 or equivalent. Study of Industrial Dynamics and Use of Computerized Dynamo Models. Urban Dynamics Models will also be addressed.

ESI 1141
Basic Writing: PR: C.I. A course in basic English writing, designed primarily for the international student, to provide intensive practice in writing effective sentences and paragraphs.

ETC 4410C

ETE 3028
Electronics in the Health Professions: To provide students in the health professions with basic knowledge of electronic equipment associated with hospitals and laboratory use.

ETE 3422
Electronic Communication: PR: 10 hours solid state electronics. The study of active RF circuits and modulation/demodulation systems. Introduction to computer-aided design.

ETE 3632

ETE 3663C
Microprocessor Electronics: PR: ETE 4111 or equivalent. Introduction to the Electronics of Basic Microprocessing. Intended for non-electronics Majors.

ETE 4111
Electricity and Electronics: Basic principles of electric circuits and electronic amplifiers. Introduction to integrated circuits.

ETE 4122C
Linear Integrated Circuits: PR: 10 hours of solid state electronics. Study of linear integrated circuits and design of electronic systems.

ETE 4161L
Senior Systems Laboratory: PR: Senior standing and C.I. Experiments covering topics in electronics module. Use of latest integrated circuit function blocks.

ETE 4210C
Servomechanisms: PR: ETE 4111. Analysis and design of servo devices and systems.

ETE 4326
Feedback Control: PR: Differential and Integral Calculus. Feedback control system analysis and design techniques, control system components, and applications to practical control systems.

ETE 4423C
Communication Systems II: PR: ETE 3422 or equivalent. Analysis and design of advanced electronic communication systems.
### Applied Kinematics:
*Energy, work and ETM*

### Occupational Safety:
*Closed services, Hydraulics ETM 3314 EN*

### Technical Sales:
*ETI 4700, ETI 4850 sales*

### Process Industrial Quality Control:
*Basis for comparison of (Fortran) standards, specifications and codes with emphasis on productibility.*

### Electro-Mechanical Design:
*PR: ETE 4111. Introduction to mechanical and electromechanical devices and their applications in industry.*

### Microcomputer Electronics:
*PR: ETE 3632 and a programming course or equivalent. Hardware analysis and design of solid state electronic microcomputers. Applications.*

### Computer Systems:
*PR: ETE 3632 or equivalent. Design and analysis of computational circuitry, memory, computer interfaces, displays, and I/O devices.*

### Power Utilization:
*PR: C.I. Analysis of the economic aspects of distribution and use of power in industry. Analysis of motors and generators.*

### Strength of Materials:
*PR: ETG 3510 or C.I. Relationship between external forces and action of members of a structure. Topics include stress and strain, torsion, beams, columns, stress concentrations and fatigue.*

### Materials and Processes:
*PR: MAC 1104 and 1114 or equivalent. Relation between structure and properties of metals, wood, ceramics and polymers. Testing and inspection, casting, forming and working of metals, heat treatment, and joining.*

### Product Design:
*PR: MAC 1104 and 1114 or equivalent. Coplanar, parallel, noncurrent and nonconcurrent force systems. centroids, CG's, moments of inertia. Principles of dynamics, rectilinear motion and rotation, work, energy, power, impulse, momentum and impact.*

### Strength of Materials:
*PR: ETG 3510 or C.I. Relationship between external forces and action of members of a structure. Topics include stress and strain, torsion, beams, columns, stress concentrations and fatigue.*

### Applied Mechanics:
*PR: MAC 1104 and 1114 or equivalent. Coplanar, parallel, noncurrent and nonconcurrent force systems. Centroids, CG's, moments of inertia. Principles of dynamics, rectilinear motion and rotation, work, energy, power, impulse, momentum and impact.*

### Computer Methods in Industry:
*PR: COP 1110 or equivalent. Industrial application of a high level (Fortran) language to various static, dynamic, electrical and economic problems.*

### Technical Economic Analysis:
*PR: Junior standing. Analysis of cost elements in technical operations. Basis for comparison of alternatives.*

### Technical Sales:
*Application of technical knowledge in sales and service. Relationship of technical sales organization to production, customers, and competitors.*

### Industrial Quality Control:

### Plant Layout, Material Handling & Work Analysis:
*Covers plant layout, material handling, space allocations, work simplification and methods. Improvements in manufacturing operations.*

### Process Planning and Estimating:
*Estimating manufacturing and construction costs, materials and services, planning and control of operations with applications of CPM concepts.*

### Occupational Safety:
*Accident prevention and the operation of an industrial safety program. Basic requirements of the Occupational Safety and Health Act standards.*

### Hydraulics and Hydrology:
*PR: Junior standing. Applied hydraulics and hydrology including design of closed and open channel flow, rainfall, runoff, seepage, ground water, storage and impoundments, wells, etc.*

### Applied Thermodynamics and Fluid Mechanics:
*PR: MAC 1132, College Physics. Introduction to energy, work and thermal systems and processes. Flow through pipes, orifices and nozzles.*

### Applied Kinematics:
*PR: ETG 3510. Masses, motions, kinematics and dynamics of mechanisms.*

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUH 4464</td>
<td>Hitler's Third Reich: PR: EUH 2000 and 2001 or C.I. German nationalism and militarism; World War I and the Versailles Treaty; the Weimar Republic and the rise of the Nazis; Second World War, division and recovery.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4501</td>
<td>English History: 1485-1815: PR: EUH 2000 and 2001 or C.I.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4502</td>
<td>British History: 1815-Present: PR: EUH 2000 and 2001 or C.I.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>EUH 4503</td>
<td>English History to 1485: PR: EUH 2000 and 2001 or C.I.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4511</td>
<td>British History: Tudor-Stuart Period: PR: EUH 2000 and 2001 or C.I. A study of the Tudor-Stuart period, with particular emphasis on the civil/religious conflicts of the time.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4530</td>
<td>British Empire and Commonwealth: PR: EUH 2000 and 2001 or C.I. Development of the British Empire and Commonwealth since the American Revolution.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4571</td>
<td>History of Russia to 1801: PR: EUH 2000 and 2001 or C.I. Kievan State; Mongol Yoke; Development of Muscovite Expansionism and Absolutism; Time of Troubles; Westernization of Russia under Peter I and Catherine; Role of Orthodox Church.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4572</td>
<td>History of Russia: 1801-1917: PR: EUH 2000 and 2001 or C.I. Alexander I; Napoleonic Invasion, Revolutionary Movement; Russian Policy toward Central Asia and China; Great Reforms; Russo-Japanese War; Revolution of 1905; Constitutional Period; Triple Entente.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4573</td>
<td>History of the Soviet Union: 1917-Present: PR: EUH 2000 and 2001 or C.I. First War; 1917 Revolutions; Civil War; New Economic Policy; Stalin-Trotsky Struggle; Collectivization; Stalinist Purges; Second War; Post-Stalin Russia; Khrushchev; Sino-Soviet Relations.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4582</td>
<td>Soviet Foreign Policy: 1917-Present: PR: EUH 2000 and 2001 or C.I.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4620</td>
<td>European Great Powers: 1815-1914: PR: EUH 2000 and 2001 or C.I. Congress of Vienna, Metternich’s system Crimean War, unifications of Italy &amp; Germany, the Bismarckian era, the alliance systems, &amp; the outbreak of World War I.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4621</td>
<td>War and International Politics in Europe, 1914 to Present: PR: EUH 2000 and 2001 or C.I. The relationship of the European Great Power from the outbreak of WWI to the present.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 5237</td>
<td>Colloquium Europe from 1815-1848: PR: Senior standing or C.I. Reading and class discussion of the literature on selected topics in European history from 1815-1848.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 5238</td>
<td>Colloquium Europe from 1848-1914: PR: Senior standing or C.I. Reading and class discussion of the literature on selected topics in European history from 1848-1914.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 5247</td>
<td>Colloquium in Europe, 1919-1939: PR: Senior standing or C.I. Selected topics in the historical literature of Europe from the Paris Peace Conference to the outbreak of the Second World War.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 5285</td>
<td>Colloquium in Europe since WW II: PR: Senior standing or C.I. Selected topics in the historical literature of Europe from the end of WW II and the beginning of the Cold War to the present.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 5517</td>
<td>Colloquium in Tudor-Stuart England: PR: Senior standing or C.I. Intensive reading and class discussion on selected topics during the Tudor-Stuart era.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>EUH 5527</td>
<td>Colloquium in 18th Century England: PR: Senior standing or C.I. An examination of the literature of selected topics in Hanoverian Britain.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 5579</td>
<td>Colloquium in Soviet Russia: PR: Senior standing or C.I. Reading and class discussion of the literature on selected topics in Russian history, 1911-present.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 5595</td>
<td>Colloquium in Czarist Russia: PR: Senior or graduate status. Selected topics on the literature of Russia under the Czars prior to 1917.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 5608</td>
<td>Colloquium European Intellectual History: PR: Senior standing or C.I. Reading and class discussion of the literature on selected topics of European Intellectual history.</td>
<td>AS 3(3,0)</td>
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</tbody>
</table>
EUH 6248
Seminar in Fascist Dictators: PR: C.I. A seminar comparing the causes, characteristics and failures of fascist movements and dictators in Germany, Italy, Austria, and other European countries from 1918 to 1945.

EUH 6288
Seminar in Europe After World War II: PR: C.I. Seminar on topics in the evolution of Europe from the end of WW II and the beginning of the Cold War to the present.

EVS 3240
Water Supply Systems: Techniques applicable to technical projects dealing with resources, hydrology, treatment, transmission and distribution.

EVS 4110
Remote Sensing of the Environment: PR: GEO 1200 or C.I. Interpretation and application of remote sensor imagery to physical, economic and urban analysis.

EVS 4220
Wastewater & Treatment Plant Analysis and Control: PR: None. Techniques applicable to collection and distribution of wastewater, effluent and sludge. Lab analysis, control measure, and operation of water and wastewater treatment plants.

EVS 4382
Air Pollution Control: Fundamental techniques applicable to analyzing composition and sources of pollutants, measuring concentrations, and controlling emissions. Aid pollution control programs, laws, rules, and regulations.

EVS 4832
Solid Waste Management: Techniques applicable to solid waste composition, collection and disposal. Solid wastes programs, laws, rules and regulations.

EVT 3082
Professional Role of the Vocational Teacher: PR: EVT 3371 or C.I.

EVT 3311
Preparation for Clinical Teaching in Vocational Education: PR: EVT 3063 or C.I. Teacher competencies in planning for clinical instruction preparing self, students, and agency for clinical instructional activities.

EVT 3365
Methods of Training in Vocational Subjects: PR: EVT 3371 or C.I. Study, practice and achievement of basic teaching techniques specifically applicable to vocational education.

EVT 3367
Evaluation of Vocational Instruction: PR: EVT 3371 or C.I. Study, practice and achievement of competencies in assessing student cognitive, affective, and psychomotor performance in vocational education.

EVT 3371
Essential Teaching Skills in Vocational Education: Study, practice, and achievement in selected essential teaching skills for beginning vocational instructors.

EVT 3562
Special Needs of Vocational Students: PR: EVT 3371 or C.I. Achievement of teacher competency in meeting the special educational needs of the handicapped, culturally different, slower learner, and those with reading deficiencies.

EVT 3815
Management of the Vocational Classroom and Laboratory: PR: EVT 3371 or C.I. Organization and management of school facilities for instructional purposes and skill in providing for student health and safety.

EVT 4066

EVT 4388
Advanced Teaching Techniques for Vocational Education: PR: EVT 3365 or C.I. Study, practice, and achievement of higher level teaching techniques, especially those involving interaction and higher cognitive levels.

EVT 5280
Cooperative Programs in Vocational Education: 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.

EVT 5287
Vocational Program Planning, Development and Evaluation: PR: Regular 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.
EVT 5315 ED 2-3(2-3,0)  

EVT 5316 ED 2-3(2-3,0)  
Clinical Coordination for the Health Occupations Teacher: PR: Regular Certificate or C.I. Development of clinical guidelines, resources, student schedules, and risk-management programs. Includes negotiating clinical contractual agreements and planning field supervision.

EVT 5581 ED 2-3(2-3,0)  
Student Guidance in the Vocational Program: PR: Regular 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.

EVT 5584 ED 2-3(2-3,0)  
Student Vocational Organizations: PR: Regular Certificate or C.I. Competencies needed by vocational teachers as they establish and supervise student vocational organizations in secondary and post-secondary schools.

EVT 5664 ED 2-4(2-4,0)  
School/Community Relations for Vocational Education: PR: Regular Certificate or C.I. Development and maintenance of productive relationships between school and community groups.

EVT 5685 ED 2-4(2-4,0)  
Competency-Based Vocational Education: PR: Regular Certificate or C.I. Achievement of teacher competencies unique to the installation and management of competency-based vocational training programs in secondary and post-secondary schools and community colleges.

EVT 5817 ED 2-4(2-4,0)  
Management of Vocational Programs: 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.

EVT 6264 ED 3(3,0)  
Administration in Vocational Education: PR: Regular Certificate or C.I. Administrative responsibilities in a local program of Vocational Education which includes two or more fields of occupational education.

EVT 6265 ED 3(3,0)  
Supervision in Vocational Education: PR: Regular Certificate or C.I. Supervisory techniques for planning and implementing improvement of staff, curriculum and personal relations in Vocational Education.

EXP 3204C AS 4(2,2)  

EXP 3304 AS 3(3,0)  

EXP 3404 AS 4(2,2)  

EXP 3513C AS 4(2,2)  

EXP 5445 AS 3(3,0)  
Psychology of Learning and Motivation: PR: DEP 5057 or C.I. Examination of theories and research concerning the acquisition and retention of behavior as well as motivational factors which influence learning and behavior.

FIL 3200 AS 4(2,2)  
Film Production: Pre-production planning, shooting, and editing of film.

FIL 3300 AS 4(2,2)  
Film Documentary: The uses and analysis of the non-fiction film.

FIL 4201 AS 4(2,2)  
Film Production II: Advanced pre-and-post production techniques including sound mixing and dubbing.

FIN 3100 BA 3(3,0)  
Personal Finance and Investments: PR: Junior standing. Fundamentals of managing and investing one's money and of acquiring, safeguarding and disposing of one's assets. Not usable for BSBA Degree credit.
FIN 3233

FIN 3303
Financial Institutions: PR: FIN 3403. A study of financial institutions, their role, regulation and of how they obtain and use their funds; also a study of funds flows in the economy.

FIN 3324
Commercial Bank Administration: PR: FIN 3403. Administrative areas of a commercial bank including organization, management of bank assets and liabilities, lending policies, trust and fiduciary activities, international and regulatory aspects.

FIN 3403
Business Finance: PR: ACC 2021 or ACC 3003 and STA 3023 or equivalent. With the balance sheet as a reference point, this course provides an introduction and overview of the acquisition, financing, and management of business assets.

FIN 3453
Financial Models: PR: FIN 3403, ECO 3411. Mathematical models applied specifically to financial problems, including those models suitable for representation and solution on computers.

FIN 3502
Investments: PR: ACC 2021 or ACC 3003 and STA 3023. A survey of the investments area including an introduction to security markets, investment vehicles, the investment environment, economic and security analysis, and portfolio management.

FIN 4430
Asset Selection Management: PR: FIN 3403. Decisions related to use of funds for working capital and fixed assets.

FIN 4431
Financial Structure Management: PR: FIN 3403. Funding decisions and the effects of these decisions on the value of the firm.

FIN 4520
Security Analysis and Portfolio Management: PR: FIN 3502. A detailed investigation into the techniques of fundamental and technical security analysis as well as industry and economic analysis. Further, examines portfolio construction and evaluation.

FIN 5405
Financial Concepts: PR: Acceptance into the graduate program, ACC 5004 and ECO 5055 and ECO 5413 or equivalents. Effects of financial decisions upon the firm, interrelationships of these effects and alternatives available to financial managers in making these financial decisions.

FIN 6406
Financial Analysis and Management: PR: Graduate standing and FIN 5405 or equivalent. This course embraces the conceptual and practical problems associated with financial management of the non-financial corporation.

FIN 6425
Asset Management and Financial Decisions: PR: Graduate standing and FIN 6404. Considers the interrelated decision making process of asset allocations, corporate fund raising, dividend policies and market maximization.

FIN 6506
Analysis of Investment Opportunities: PR: Graduate standing and FIN 6404. Deals with the theory and tools of analysis required in the management of financial assets.

FLE 3063
Foreign Language as Human Behavior: PR: Or CR: LIN 3010 or C.I. Nature of Language, language learning and teaching basic skills. Weekly laboratory.

FLE 3333
Foreign Language Instructional Analysis: EDG 4341. Objectives for a school curriculum and of methods and materials for teaching foreign language.

FRE 1005
French Diction: This course is especially designed for music and voice students with an emphasis on musical terms, French songs and opera libretti.

FRE 1100
Elementary French Language and Civilization: Designed to initiate the student to the major language skills; listening, speaking, reading and writing.

FRE 1101
Elementary French Language and Civilization: PR: FRE 1100 or equivalent. Continuation of FRE 1100.
FRE 2201  Intermediate French Language and Civilization: PR: FRE 2200 or equivalent. Continuation of FRE 2200 with emphasis on French civilization.  
FRE 2210  Intensive French Conversation: PR: One year of French or equivalent. Practical use of the language leading toward fluency and correctness in speaking.  
FRE 3240  French Conversation: PR: FRE 2201 or equivalent. Development of skills in conversation and comprehension. This course may be repeated for credit. When repeated, credit will apply to general electives only.  
FRE 3420  French Composition: PR: FRE 2201 or equivalent. Development of skills in composition.  
FRE 4421  Advanced French Conversation: PR: FRE 3240. Advanced conversation on directed topics from various disciplines. Literature, art, psychology, philosophy, music, business and the sciences.  
FRE 4422  Advanced French Composition: PR: FRE 3420. Readings and written imitations of modern literary styles in the form of themes, sketches, poems and original stories.  
FRE 4500  French Civilization and Culture: PR: FRE 3240 or FRE 3420. A survey analyzing development of key elements of French life; its historical, artistic, intellectual, scientific, spiritual contributions to the world via readings, lectures, films and other media. Conducted in French.  
FRE 4780  French Phonetics and Diction: PR: FRE 3420 or equivalent. French phonology with emphasis on phonetic groupings.  
FRW 3100  Survey of French Literature I: PR: FRE 2201 or equivalent. Main literary currents and works from the Middle Ages through the eighteenth century.  
FRW 3101  Survey of French Literature II: PR: FRE 2201 or equivalent. Main literary currents and works of the nineteenth and twentieth centuries.  
FRW 3370  Short Stories of 18th, 19th and 20th Centuries: PR: FRE 2201 or equivalent. Selected readings designed to increase reading speed and develop analytical abilities. Authors include: Voltaire, Maupassant, Flaubert, Camus and others.  
FRW 4310  Seventeenth Century French Theatre: PR: FRW 3100. Corneille, Racine, and Moliere. A study of the lives and principal works of the authors.  
FRW 4820  Stylistics: PR: FRE 3240 or equivalent. An intense study of textual criticism. An examination of the relationship between language and literature; explications and linguistic analysis of literary texts.  
GEB 3004  Management: PR: Junior standing. The interdisciplinary application of the managerial functions of planning, organizing, leading and controlling. For Non-Business Majors ONLY.  
GEO 1200  
Physical Geography: Basic physical elements of geography including climate, landforms, soils, natural vegetation, minerals and their integrated patterns of world distribution.

GEO 3370  
Resources Geography: Analysis of basic principles and problems associated with development, use, conservation, and management of natural resources with special emphasis on the United States.

GEO 3470  
World Political Geography: Analysis of factors which affect power relations among nations including area, location, political styles, ethnic divisions, and the politics of energy.

GEO 3602  
Urban Geography: The city as a geographical phenomenon created by human effort, its historical development; patterns of land use as related to economic, sociological and political influences.

GER 1005  
German Diction: This course is especially designed for music and voice students with an emphasis on musical terms, German songs and opera libretti.

GER 1100  
Elementary German Language and Civilization: Designed to initiate the student to the major language skills: listening, speaking, reading, and writing.

GER 1101  
Elementary German Language and Civilization: PR: GER 1100 or equivalent. Continuation of GER 1100.

GER 2200  
Intermediate German Language and Civilization: PR: GER 1101 or equivalent. Designed to continue development of language skills at the intermediate level, together with a review of grammar.

GER 2201  
Intermediate German Language and Civilization: PR: GER 2200 or equivalent. Continuation of GER 2200 with emphasis on German civilization.

GER 2210  
Intensive German Conversation: PR: One year of German or equivalent. Practical use of the language leading toward fluency and correctness in speaking.

GER 3240  
German Conversation: PR: GER 2201 or equivalent. Development of skills in conversation and comprehension through practice.

GER 3420  
German Composition: PR: GER 2201 or equivalent. Development of skills in composition.

GEW 3100  
Survey of German Literature I: PR: GER 2201 or equivalent. Main literary currents and works from the Middle Ages through the Nineteenth Century Romanticism.

GEW 3101  
Survey of German Literature II: PR: GER 2201 or equivalent. Main literary currents and works from Nineteenth Century Realism to the present.

GEW 3370  
Short Story: PR: GER 2201 or equivalent. German short prose works of the 19th and 20th centuries.

GEY 3610  
Psychology of Aging: PR: PSY 2014. An examination of basic psychological processes related to the aging process with emphasis on the applied implications of changes in perceptual-motor, social-emotional and cognitive-intellectual functioning.

GLY 1000  
Geology and its Applications: Geologic applications and hazards including: gemstones, geothermal energy, fossil fuels, groundwater, sinkhole, beach erosion, landslides, earthquakes, "tidal" waves, volcanism.

GLY 1100  
Historical Geology: Lunar and planetary histories, evolution of earth's crust including drifting continents and mountain building, evolution of life as reconstructed from fossils.

GLY 4005  
Rocks and Minerals: PR: GLY 1000 or GLY 4006. Their identification and significance as indicators of geologic processes.

GLY 4006  
Geology of Our National Parks and Monuments: Unique geologic features preserved in our national park system and the processes that gave rise to these features.

HIS 4150  
History and Historians: PR: C.I. A study of European and/or American historiography. May be repeated once for credit.
HIS 4970  
Senior Thesis: Original research paper available to advanced history majors, topics to be selected in consultation with a directing professor.

HIS 6159  
Seminar in Historiography: PR: C.I. Selected topics in the study of history. May be repeated for credit on consent of Instructor.

HIS 6946  
Teaching Practicum: PR: C.I. Student observation, participation, direction, and leadership in a college survey course.

HIS 6971  
Thesis: PR: C.I. May be repeated once.

HLP 4480  
Teaching Elementary School Health and Physical Education: PR: Admission to Phase II or C.I. Observation, organization, practice, and conduct of health and physical education activities in the elementary school.

HSC 3081  
Medical Self Assessment: Development of clinical skills and understanding of one’s health to encourage active participation of the individual in his own health care.

HSC 3152  
Health Law: Principles of law as applied to the health field with special reference to health practices.

HSC 3328  
U.S. Health Care Systems: Organization and management of health care delivery systems in the United States; ethical, legal, community and professional relationships, needs, resources, programs, trends in health care.

HSC 3501  
Interpretation of Clinical Tests: PR: BCN 1023 and PCB 3703 or C.I. Introduction to laboratory tests emphasizing those relating to gas transport and enzyomology.

HSC 3531  
Medical Terminology: A study of the language of medicine and allied health specialties, including work construction, definitions and application of terms.

HSC 4101  
Organization and Management for Health Agencies: PR: Health Related Professions major or C.I. Analysis of health agency organizations and management procedures.

HSC 4302  
Community and Public Health Services: History and philosophy of public health; interphase of governmental, voluntary, and private health agencies; current community health problems, issues, and needs; social and economic factors.

HSC 4393  
History and Future of Health Care: Health care institutions; purposes of health agencies, organizations and allied health professionals; new trends in health care delivery. Designed for non-majors.

HSC 4411  
Epidemiology: PR: STA 2014 or C.I. General concepts and scope; distribution of selected diseases; factors influencing health and disease in a population.

HSC 4511  
Fundamentals of Medicine I: PR: ZOO 3733 or PCB 3703; or C.I. A study of the pathophysiology and treatment of specific disease entities.

HSC 4512  
Fundamentals of Medicine II: PR: HSC 4511 or C.I. A continuation of HSC 4511.

HUM 2200  
Landmarks in Western Humanities: Selected examples of man’s creative achievements in literature, philosophy, art, music; inter-related to enlarge understanding of the nature of man and appreciation of human values.

HUM 3431  
The Classical World: Greece: History and culture of Greece from the Minoan-Mycenaean to the Hellenistic age, with emphasis on contribution in art, literature and philosophy.

HUM 3432  
The Classical World: Rome: History and culture of Rome from the Etruscan Period to the dissolution of the empire, with emphasis on contributions in architecture, law and literature.

HUM 4302  
The Romantic Ideal in the Arts: The Romantic quest for identity with nature and the sublime in the arts of various times. Concerns feeling, imagination, subjectivity, creativity. Open to all upperclassmen.

HUM 4303  
The Spiritual Ideal In the Arts: The search for the meaning and experience of the sublime reflected in the arts. Spiritual impulses contrasted to the pathos and ethos. Open to all upperclassmen.
HUM 4906 Supervised Special Training: Supervised special work experience. Open to students combining a major in Humanities and Fine Arts with Business Administration. Must be arranged in advance of registration.

HUN 3011 Human Nutrition: Essentials of nutrition related to the life cycle, including the physiological, psychosocial and cultural aspects of nutrition and the inter-relationship with disease is emphasized.

INP 3004 Industrial/Organizational Psychology: PR: PSY 2013 and PSY 3204. Psychological principles of personnel selection, training, and administration; motivational methods for individuals and groups in organizations; use of behavioral science in helping organizations become more effective.

INP 3102 Applied Psychology: Applications of principles of psychology to personal adjustment, industry, and education.

INP 6215 Assessment Centers and Leadership: PR: Graduate admission and C.I. Survey of assessment center methodology and application and of leadership theory and practice.


INP 6605 Training and Performance Appraisal: PR: Graduate admission and C.I. Survey of theories, research and practice in the areas of industrial/organizational training and performance appraisal.

INP 6939 Current Topics and Applied Problems in Industrial/Organizational Psychology: PR: Graduate admission and C.I. Survey of current topics in Industrial/Organizational Psychology with emphasis on applied problems.

INP 6946 Industrial Psychology Practicum I and Professional Problems: PR: Graduate admission and C.I. Supervised placement in an organizational setting and survey of ethical issues pertaining to the industrial/organizational psychologist.

INP 6947 Industrial Psychology Practicum II: PR: Graduate admission and C.I. Supervised placement in industry. May be repeated for credit.

INR 3002 International Relations—Theory and Practice: Analysis of the fundamental principles and factors affecting interstate relations and their application to contemporary global developments.

INR 3024 Nationalism: A Systematic Approach: Theory and practice of modern nationalism as a world-wide political phenomenon including forms of political agitation, rebellions, and secessionist movements.

INR 4035 International Political Economy: The international politics of regional and global economic interdependence with emphasis upon North-South relations, the New International Economic Order, OPEC and multinational corporations.

INR 4104 American Foreign and Defense Policy: Development of American foreign and defense policy with emphasis on the role and policies of the United States in the contemporary world.

INR 4224 Contemporary International Politics of Asia: Examinations of the foreign policies of major and secondary powers in Asia, with particular attention to China and Japan.

INR 4243 Contemporary Politics of Latin America: Study of contemporary U.S.-Latin American relations, inter-American politics and organization, and the role of Latin America in the world.

INR 4274 International Politics of the Middle East: The external politics of the Middle East from a regional-global perspective with particular attention to the region's impact upon the relations of major powers.

INR 4335 Coercion in International Politics: Examination of the role of coercive techniques among states in a nuclear age, ranging from nuclear strategy and deterrence to wars of national liberation and coups.

INR 4401 International Law I: Introduction to the nature, solution, and sources of international law and such subareas as recognition of states and governments, expropriation, nationality, and aliens.
INR 4402 International Law II: PR: INR 4401 or C.I. Examination of various subareas of international law including maritime law, laws of the sea and seabed, air law, outer space, neutrality, and laws of war.

INR 6007 Seminar in International Politics: Introduces the student to the advances in international relations theory and research through a broad sampling of approaches and methods.

ITA 1005 Italian Diction: This course is especially designed for music and voice students with an emphasis on musical terms, Italian songs and opera libretti.

ITA 1100 Elementary Italian Language and Civilization: Designed to initiate the student to the major language skills: listening, speaking, reading, and writing, in addition to an introduction to Italian culture.

ITA 1101 Elementary Italian Language and Civilization: PR: ITA 1100 or equivalent. Continuation of ITA 1100.

ITA 2200 Intermediate Italian Language and Civilization: PR: ITA 1101 or equivalent. Designed to continue development of language skills at intermediate level, plus a review of grammar, study of syntax, idiomatic expression, extensive readings and further study of Italian culture.

ITA 2201 Intermediate Italian Language and Civilization: PR: ITA 2200 or equivalent. Designed to continue development of language skills at intermediate level, plus a review of grammar and study of syntax with emphasis on Italian civilization.

ITA 2210 Intensive Italian Conversation: PR: One year of Italian or equivalent. Practical use of the language leading toward fluency and correctness in speaking.

JOU 3003 History of American Journalism: Development of mass media, leading innovators and the media’s role in the nation’s history.

JOU 3100 News Reporting: PR: English proficiency examination. Development of skills in newsgathering and writing for the mass media. Students must have minimum ability to type and pass the department language proficiency exam.

JOU 3200 News Editing: PR: English proficiency examination; minimum grade of C in JOU 3100; ability to type 30 wpm. Fundamentals of copy editing for printed media, including selection, processing and display of news.

JOU 3800 Photожournalism: Learning the use of the still cameras, darkroom procedures. Communication majors only.

JOU 4104 Public Affairs Reporting: PR: English proficiency examination and minimum grade of C in JOU 3100. Reporting on the activities of city, county and state government, courts and schools.

JOU 4300 Feature Writing: PR: English proficiency examination and a minimum grade of C in JOU 3100. Writing of feature articles for newspapers and magazines.

JOU 4302 Editorial and Column Writing: PR: English proficiency examination and a minimum grade of C in JOU 3100. Building the editorial page, backgrounding and interpreting the news.

JOU 4305 Technical and Scientific Writing: PR: English proficiency examination and a minimum grade of C in JOU 3100. Practice in gathering of materials for technical and scientific articles; digesting of technical information into more readable forms.

JOU 4306 Critical Writing: PR: English proficiency examination and a minimum grade of C in JOU 3100. Writing reviews of movies, plays, television program, concert, books and other cultural works.

JOU 4310 Freelance Writing: PR: English proficiency examination and evidence of satisfactory writing skills. A study of the techniques and procedures of freelance writing, including the preparation of several manuscripts.

JOU 4802 Color Photography for the Mass Media: PR: JOU 3600. Taking pictures, photo essays in color; developing and printing via the Cibachrome process.

JOU 4802 The Newspaper in the Classroom: Study of the use of the newspaper as a teaching aid in the classroom. Designed for persons currently teaching or majoring in education.
LAH 3021
Latin American History I: PR: EUH 2000 and 2001 or C.I. The Colonial period. AS 3(3,0)

LAH 3022
Latin American History II: PR: EUH 2000 and 2001 or C.I. The national period. HFA 3(3,0)

LAT 1100
Elementary Latin Languages and Civilization: Designed to develop Latin language skills at the elementary level: listening, speaking, reading, and writing, in addition to an introduction to Roman culture. AS 3(3,1)

LAT 1101
Elementary Latin Language and Civilization: PR: LAT 1100 or equivalent Continuation of LAT 1100. AS 3(3,1)

LEA 3001
Law and the Legal System: A survey course designed to familiarize the student with the American legal system, ethical considerations, terminology, legal reasoning, and the role of the legal assistant. AS 4(4,0)

LEA 3011
Legal Research and Writing: PR: LEA 3001 or C.I. The student learns how to find and use material in a law library and how to write a legal memorandum and brief. AS 4(4,0)

LEA 3101
Civil Practice and Procedure: PR: LEA 3001 or C.I. The student becomes familiar with the Florida civil procedure before trial and acquires the ability to prepare basic pleadings. AS 4(4,0)

LEA 3151
Compensation for Injuries (Torts): PR: LEA 3001 or C.I. Theories governing liability for civil injuries not arising from contractual obligations; systems and procedures used in preparation, trial and appeal of Torts cases. AS 4(4,0)

LEA 3201
Property and Real Estate Law: PR: LEA 3001. Study of the law of real and personal property; real estate transactions and conveyances; closing procedures and title problems. AS 4(4,0)

LEA 3601
Criminal Procedure: PR: LEA 3001 or CCJ 2020 or C.I. Rules of criminal procedure with emphasis on Florida rules, including right to counsel, bail, search and seizure, arrest, identification, trial, and post-trial proceedings. AS 4(4,0)

LEA 4106
Evidence: PR: LEA 3001 and 3101 or C.I. An examination of statutes and cases that define rules of evidence for trial courts. Primary emphasis is on the Florida Evidence Code. AS 4(4,0)
LEA 4204  AS 4(4,0)
Land Use and Environmental Law: PR: LEA 3001, 3201. Study of the law relating to private and public restraints on land use, including planning, zoning, subdivision and building regulations, with emphasis on recent interpretations by judiciary for environmental protection.

LEA 4211  AS 4(4,0)
Estates and Trusts: PR: LEA 3001, 3201. A study of wills and trusts, and applicable legal principles of administration of estates through the processes of the Probate Court.

LEA 4301  AS 4(4,0)
Contracts and Agency: The course studies the basic law of contracts and agency as developed in Anglo-American common law and as changed by modern statute, especially the Uniform Commercial Code.

LEA 4312  AS 4(4,0)
Florida Partnerships and Corporations: Statutory requirements of Florida partnerships and corporations; creation and dissolution of business organizations, responsibilities of officers and basic rights of stockholders.

LEA 4315  AS 3(3,0)
Law and Procedure-Bureaucracy: The study of public and quasi-public bureaucracies and of the functions and structure of the component units, particularly those units responsible for agency conformity with legal obligations and procedures.

LEA 4501  AS 4(4,0)
Domestic Relations Law: PR: LEA 3001, 3201. Role of the legal assistant in all phases of family and juvenile law. Fundamental procedures and principles applied by the courts to family problems.

LEA 4801  AS 4(4,0)
Administrative Law: PR: LEA 3001 or PAD 3003 or MMC 4200. The law regarding governmental administrative agencies with emphasis on the administrative process, the administrative procedure act, and special problems of state administrative law.

LEA 5008  AS 3(1,2)
Legal Institutions: PR: C.I. Overview of the American legal system including the court system, major areas of substantive law and principles of procedure.

LEA 5025  AS 3(1,2)

LEA 5937  AS 3(1,2)

LEI 3434  ED 2(1,1)
Recreation and Intramurals: Knowledge and skills of general recreation and intramural programs.

LEI 6443  ED 3(2,1)
Recreation: A comprehensive study of public, private and school recreation programs.

LIN 2701  HLTH 3(3,0)
Psychology of Oral Communication: Psychological principles involved in the communicative process with application to individuals and groups.

LIN 3010  AS 3(3,0)

LIN 3200  AS 4(3,1)
English Phonetics and American Dialects: Physiological description and visual notation of speech sounds; regional dialects of American English.

LIN 3710  HLTH 3(3,0)
Foundations of Language: This course is designed to explore contributions to language from disciplines of Biology, Neurology, Psychology & Sociology.

LIN 4020  AS 3(3,0)
Anthropological Linguistics: PR: ANT 3000 or ANT 3410. Survey of anthropological linguistic field techniques in non-native cultures and application of linguistic theories to study of socio-cultural systems.

LIN 4100  AS 3(3,0)
History of the English Language: Study of the English language and its development from Anglo-Saxon to Modern.

LIN 4202  AS 3(3,0)
Phonetics: Study of the sounds of language from an articulatory perspective.

LIN 4341  AS 3(3,0)
Modern English Grammar: Emphasis upon the analysis and comparison of traditional, structural and transformational grammar.

LIN 4712: Normal Language Development: Students will study language development and develop skill in eliciting language samples, describing language use, and analyzing language samples through demonstrations and problem solving experience.

LIN 4801: Language and Meaning: A linguistic study of the nature of language, meaning, and the ways in which man uses language in various social, cultural, institutional, and professional settings.

LIN 5137: Linguistics: Modern linguistic theories and studies focusing on language acquisition and development, contemporary American English, semantics and paralinguistics.


LIN 5932: Problems in Linguistics: PR: LIN 5137. In-depth study of the application of linguistics to various aspects for teaching and communication.

LIS 3003: Library Resources and Materials: Use of the library, basic reference material, library services and research methods.

LIS 3016: Introduction to Media Services: Role and scope of media center. Major concepts, standards, trends, and media specialist functions emphasized.

LIS 3412: Media for Children and Young Adults: Survey of media center materials for children and young adults; analysis and evaluation of print and non-print materials K-12.

LIS 4310: Production of Materials for Media Center: PR: LIS 4428. Skill in producing teacher and student-made materials. Emphasized graphic, photographic and audio techniques for schools. Lab TBA.

LIS 4422: Administration and Operation of the Media Center: Administrative principles applied to developing resources and services; including planning, decision making, personnel and financial management, evaluation, acquisition, processing, maintenance, and inventory.


LIS 4453: School Media Services: PR: C.I. Planning activities and programs to assist teachers and students in utilizing the Media Center. Includes skills development, R/L/V guidance, promotion and inservice techniques. Lab TBA.


LIS 4540: Interaction Techniques in Media Services: PR: C.I. Interpretation skills and communication processes applied to working with administrators, teachers, parents, and students in the media program.

LIS 4601: Reference Sources and Services: PR: C.I. Development of skills in locating information and providing reference services.

LIS 4731: Organization of Media and Information: PR: C.I. Principles of informational science and bibliography. Methods of organizing and non-print media, with instruction in cataloging and classification using standard bibliographic tools.

LIS 5282: Computer Applications in Instructional Technology: Emphasis on the applications of the computer for the media specialist and instructional technologist.

LIS 5312: Advanced Production Techniques: Advanced skills in graphic, photographic, and audio production. Integration of media into instructional packages.

LIS 5454: Administrative Principles in Media Centers: Planning, organizing, directing, supervising and budgeting in school media center. Personnel, public relations, facilities design, and evaluation.
LIS 6313 ED 3(3,0)
Multi-Media Message Design: Principles of communication, learning theory, and research in instructional technology applied to the design of mediated instructional messages.

LIS 6509 ED 3(3,0)
Seminar in Educational Media: Survey of current trends and issues in educational media. Research reviewed and the findings related to current practices.

LIS 6945 ED 3(3,0)
Practicum in Educational Media: Supervised work experience in educational media. May be taken twice for credit. Application must be made during preceding semester.

LIT 2110 AS 3(3,0)
World Literature I: Poetry, prose, and drama selected from ancient Hebrew, Greek, and Oriental literature and from that of Renaissance Europe.

LIT 3000 AS 3(3,0)
Literary Analysis: Analysis of fiction, drama, and verse in terms of major elements; plot conflict, characterization, viewpoint, rhetorical and poetic devices, figurative language, meter, rhyme, verse forms.

LIT 3081 AS 3(3,0)
Literature of Modern Man: Reading and discussion of types and forms of modern literature.

LIT 3082 AS 3(3,0)
Continental European Fiction Since 1900: A selection of significant works of fiction written in various languages during the present century, read in translation.

LIT 3311 AS 3(3,0)
Science Fiction: An investigation of science fiction as a literary form, together with selected readings.

LIT 3383 AS 3(3,0)

LIT 4312 AS 3(3,0)
Fantasy: A survey of the literature of fantasy with emphasis on such figures as C.S. Lewis.

LIT 4354 AS 3(3,0)
Ethnic Literature in America: Contributions of linguistic and ethnic groups of non-English origin to the literature of the United States.

LIT 4373 AS 3(3,0)
Literature of the Bible: PR: ENC 1102 or LIT 3000 or C.I. Literary forms in the Bible—narrative, poetic, and dramatic—and their reflection in modern literature.

LIT 5097 AS 3(3,0)
Studies in Contemporary Fiction: Fiction in the last 20 years in the United States and Britain.

LIT 5366 AS 3(3,0)
The Romantic Revolt (19th Century Literature): The romantic revolt in poetry and prose; English, American and Continental literature, 1798-1832.

LIT 5367 AS 3(3,0)
The Experience of Realism: The development of realism in 19th Century British literature.

LIT 6009 AS 3(3,0)
Literary Genres: Provenance, structure and critical problems in a specific genre such as tragedy, the epic, the novel, or the lyric.

LIT 6105 AS 3(3,0)
World Literature: The study of the influence on British and American literature of selected foreign works read in translation.

LIT 6305 AS 3(3,0)
Media and Popular Literature: Study of the literary content of contemporary media; popular fiction, such as science fiction, detective fiction and historical fiction. Application to classroom teaching.

LIT 6355 AS 3(3,0)
Major Literary Authors: Study of a single author or of two or three associated literary authors, with emphasis on biography, bibliography, and style.

MAA 4226 AS 3(3,0)

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAA 4227</td>
<td>Introduction to Analysis II</td>
<td>PR: MAA 4226 or C.I. Continuation of MAA 4226.</td>
</tr>
<tr>
<td>MAC 1104</td>
<td>College Algebra</td>
<td>PR: MAT 1033 or 2 years of high school algebra or C.I. Algebraic equations and inequalities in one variable. Functions and graphs. Polynomial, rational, exponential and logarithmic functions. Systems of equations.</td>
</tr>
<tr>
<td>MAC 1114</td>
<td>College Trigonometry</td>
<td>PR: MAT 1033 or 2 years of high school algebra or C.I. The circle arc length, circular functions, identities, inverse functions, applications to simple harmonic motion, function of angles, complete development of triangle solving.</td>
</tr>
<tr>
<td>MAC 3233</td>
<td>Concepts of Calculus</td>
<td>PR: MAC 1104 or C.I. The differential and integral calculus of rational, exponential and logarithmic functions with applications to business analysis. Not open to students with credit in MAC 3253 or MAC 3311.</td>
</tr>
<tr>
<td>MAC 3253</td>
<td>Applied Calculus I</td>
<td>PR: MAC 1104 and MAC 1114 or C.I. The differential and integral calculus with analytic geometry for rational, exponential, logarithmic and trigonometric functions with applications to engineering technology. Not open to students with credit in MAC 3233 or MAC 3311.</td>
</tr>
<tr>
<td>MAC 3254</td>
<td>Applied Calculus II</td>
<td>PR: MAC 3253 or C.I. Continuation of MAC 3253.</td>
</tr>
<tr>
<td>MAC 3311</td>
<td>Calculus with Analytic Geometry I</td>
<td>PR: MAC 1104 and MAC 1114 (College Algebra and Trigonometry) or equivalent or C.I. The differential and integral calculus of algebraic and elementary transcendental functions with geometric and physical applications. Topics from analytic geometry including coordinate systems, vectors, lines, conic sections, transformations of coordinates and polar coordinates. During the 2nd and 3rd semesters the topics also include sequences and series, Taylor series and the differential and integral calculus for functions of several variables.</td>
</tr>
<tr>
<td>MAC 3312</td>
<td>Calculus with Analytic Geometry II</td>
<td>PR: MAC 3311 or C.I. Continuation of MAC 3311.</td>
</tr>
<tr>
<td>MAC 3313</td>
<td>Calculus with Analytic Geometry III</td>
<td>PR: MAC 3312 or C.I. Continuation of MAC 3312.</td>
</tr>
<tr>
<td>MAE 1810</td>
<td>Mathematics for Elementary School Teachers I</td>
<td>PR: Two years of high school mathematics and C.I. Algorithms for arithmetic operations. Number systems. Geometry. Open only to majors in elementary education.</td>
</tr>
<tr>
<td>MAE 2811</td>
<td>Mathematics for Elementary School Teachers II</td>
<td>PR: MAE 1810 and C.I. The system of real numbers, binary operations, functions, transformation geometry, probability, statistics and number theory. Open only to majors in elementary education.</td>
</tr>
<tr>
<td>MAE 3310</td>
<td>Teaching Mathematics in the Elementary School</td>
<td>PR: Admission to Phase II and completion of Departmental prerequisite mathematics requirements. Instructional strategies, sequences of content, activities; the use of manipulative and A-V materials, evaluation of mathematics learning, and diagnosis of student difficulties.</td>
</tr>
<tr>
<td>MAE 3330</td>
<td>Mathematics Instructional Analysis</td>
<td>PR: EDG 4341. Study of course objectives for the high school curriculum and survey of methods and materials which have special application for teaching mathematics.</td>
</tr>
<tr>
<td>MAE 3817</td>
<td>Mathematics Topics for Elementary School Teachers</td>
<td>PR: One college mathematics course and C.I. An accelerated course covering the systems of whole numbers, integers, rational numbers, real numbers, binary operations, functions, transformation geometry, probability statistics and number theory. Open only to majors in elementary education.</td>
</tr>
<tr>
<td>MAE 5318</td>
<td>Current Methods in Elementary School Mathematics</td>
<td>PR: Regular Certificate or C.I. Strategies of instruction of computation &amp; concepts of number, geometry, and measurement; instructional materials. (Meets Elementary Education certification requirements.)</td>
</tr>
</tbody>
</table>
MAE 5637  
Laboratory Programs in Mathematics: PR: Regular Certificate or C.I. Design and development of special materials and projects for mathematics independent study. Emphasis on teaching and applying the metric system. (Meets certification requirements for secondary mathematics.)

MAE 6145  
Mathematics Curriculum, K-12: PR: At least 6 SH 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.

MAE 6517  
Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher: PR: Rank II Certificate or C.I. The study of techniques for diagnosis and remediation of difficulties in mathematics.

MAE 8145  
Curriculum, K-12: PR: At least 6 SH 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.

MAE 8517  
Diagnostics/Remediation of Difficulties in Mathematics for the Classroom Teacher: PR: Rank II Certificate or C.I. The study of techniques for diagnosis and remediation of difficulties in mathematics.

MAE 8549  
Practicum in Mathematics Instruction, K-12: PR: MAE 6517; CR: MAE 6899. Supervised diagnostic instruction with children; selection of instructional materials and techniques. May be repeated for credit.

MAE 8641  
Problem Solving and Critical Thinking Skills in Mathematics, K-12: PR: Regular Certificate or C.I. Development of procedures and practices necessary to implement critical thinking skills and problem solving techniques in the schools.

MAE 8648  
Designing Instructional Packages for Computer Applications: The applications of computer technology to instruction, K-12. Testing, drill activities, problem solving, skill development, and curriculum management will be considered.

MAE 8699  
Seminar in Teaching Mathematics: PR: Six semester hours of graduate credit in mathematics education or C.I. 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.)

MAF 4501  
The Family: PR: SOC 2000. The family viewed functionally as a distinct social and cultural complex in the contemporary United States. Topics include: mate selection, marriage, adjustment, parenthood, post marriage.

MAN 3010  
Management of Organizations: PR: Junior standing, ACC 2021 or 3003, ECO 2023, ECO 2013. Introduction to the theory and practice of managing formal organizations including planning, organization theory, human behavior and control.

MAN 3151  
Human Behavior and Interpersonal Relations: PR: MAN 3010 or C.I. Human behavior and its effect upon the operation of formal organizations.

MAN 3301  
Personnel Management: PR: Junior standing, MAN 3010 or C.I. Systematic analysis of personnel functions in organizations.

MAN 3504  
Production/Operations Management: PR: Junior standing, STA 3023. Introduction to the management of systems for the creation, distribution and maintenance of goods and services required for modern society.

MAN 3705  

MAN 4004  
Planning and Control: PR: MAN 3010. Emphasizes planning and controlling processes, including statement of organization objectives, development and implementation of an action plan, evaluation of performance, and required follow-up activities.

MAN 4120  
Business and Society: PR: MAR 3023, FIN 3403, MAN 3010. A study of the interrelationship between the institution of business and other institutions of our society.

MAN 4150  
Human Relations in Management: PR: MAN 3010. The study of individual, interpersonal, group and intergroup problems in business organizations through the use of cases and experimental exercises.

MAN 4201  
Organization Theory: PR: MAN 3010. Introduces the basic theoretical concepts of integrating both micro and macro approaches to effective management of organizations.

MAN 4310  
Personnel Management Issues: PR: Junior standing, MAN 3301. An application-oriented course to give students in the area experiences generally reserved for practitioners in the field of personnel and labor relations.
Quantitative techniques aid the decision-making process is stressed. Organizational company-wide management decision-making by groups using the management game techniques or their analysis of management in modern society with emphasis on the interrelationship between the management Planning and Control Analysis:

MAN 4401 Labor Relations Management: PR: Junior standing, MAN 3301. The impact of employee organizations on labor relations, current problems, conflicts and trends; the development of managerial approaches to achieve labor-management cooperation.


MAN 4510 Production Management Problems: PR: MAN 3010, MAN 3504 and STA 3023. Problems in the management of industrial enterprise. Management principles and mathematical analysis applied to manufacturing; product development and production; control; employee relations.

MAN 4590 Procurement Management: PR: MAN 3010 and MAN 3504. An elective course in procurement management. Designed to provide the student with fundamental concepts and processes involved in the procurement of goods and services required by modern society.

MAN 4720 Business Policies: PR: Senior standing, completion of core. The student is expected to utilize the subject matter in the business core and his major in analyzing business problems.

MAN 4722 Implementing Information Systems: PR: MAN 4722 and CAP 3001. Study of organizational information needs and systems for planning and control.

MAN 4854 Management Science: PR: MAN 3010 and MAN 3504 and ECO 3411 and CAP 3001. Study of the application of simulation and quantitative models to organizational systems.

MAN 5051 Management Concepts: PR: Acceptance in MBA program. Theory and practice of managing organizations to include planning, organizational theory, human behavior and control.

MAN 5501 Introduction to Production/Operations Management: PR: Acceptance into the graduate program and ECO 5413 or equivalent. Introduction to the fundamental concepts, processes and institutions involved in the production of goods and services required by modern society.

MAN 5530 Introduction to Management Information Systems: PR: Acceptance into the graduate program. Designed to provide the student with the fundamentals of business data processing and management information systems used by organizations in a modern society.

MAN 6055 Planning and Control Analysis: PR: Graduate standing and MAN 5051 or equivalent. Emphasizes elements of the planning and control processes including objectives, action programs and control procedures. Discusses integration of the two processes.

MAN 6075 History of Management Thought: PR: Graduate standing and MAN 5051. The historical development of management in modern society with emphasis on the interrelationship between the management processes and the economic, social, and political environments.

MAN 6121 Group Decisions and Analysis: PR: Graduate standing and MAN 5051 or equivalent. Experience in company-wide management decision-making by groups using the management game techniques. Analysis of the group decision-making process using video tapes.

MAN 6208 Organizational Behavior and Development: PR: Graduate standing and MAN 5051 or equivalent. The analysis of human behavior in organizations in terms of the individual, small group, intergroup relationships, and the total organization.

MAN 6721 Business Policy and Responsibility: PR: Graduate standing and completion of all foundation courses or their equivalent. This MBA program capstone course provides the student experience in formulating policy and strategy for direction of a business firm from the integrated viewpoint of a CEO.

MAN 6814 Quantitative Models for Business Decisions: PR: Graduate standing and ECO 5413 or equivalent. Mathematical model building to aid the decision-making process is stressed.
Research and Development Management: PR: Graduate standing and MAN 5051. An examination of the function of research and development and the impact of technological innovation on our economic and social systems.

Systems Analysis and Development: PR: MAN 5051 and graduate standing. Study and application of systems concepts for the improvement of organizational work and information systems.


Problem Analysis: PR: MAC 1104 and MAC 1114 or equivalent. Applications of computational techniques to selected problems in the practice of engineering technology. Problems relating to specific option areas.


Applied Boundary Value Problems II: PR: MAP 4363 or C.I. Legendre polynomials and Bessel functions. The theory of Sturm-Liouville. Separation of variables. Applications involving the wave equation, heat equation and equation of Laplace.

Laplace Transforms: PR: MAP 3302 or C.I. Laplace and Z transforms; solutions of ordinary and partial differential equations; application to circuit analysis and difference equations.

Special Functions: PR: MAP 3302 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.


Marketing: PR: Junior standing. Study of functions, institutions and basic problems in marketing of goods and services in our domestic economy and abroad.

Advertising Management: PR: MAR 3023. Analysis of field of advertising; techniques, media, organization, and role of research; economic and social aspects of advertising.

Sales Management: PR: MAR 3023. An overview of the sales management process. Emphasis on sales program formulation and implementation.

Consumer Behavior: PR: MAR 3023. Analysis of the buying process, the psychological, social, and economic influences affecting consumer choice.

Marketing Research: PR: MAR 3023, ECO 3411. Study of research procedures and techniques for problem solving in marketing. Concepts are explored and the incorporation of information resources into the management function demonstrated.

Product Management: PR: MAR 3023. Components of product management including analysis, strategy formulation and implementation are examined.

Retailing Management: PR: MAR 3023. Analysis of the field of retailing. Emphasis on planning for profit through management, inventory control, etc.
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>MCB 4404C</td>
<td>Microbial Metabolism</td>
<td>PR: MCB 2013C and BCH 4054. Interrelationship between cellular structure function and genetic traits in microorganisms. The interaction between microorganisms and their nutritional environment.</td>
</tr>
<tr>
<td>MCB 4603C</td>
<td>Environmental Microbiology</td>
<td>PR: PCB 3043 and MCB 2013C. Interrelationships between the biological activities of microorganisms and their terrestrial and aquatic environments.</td>
</tr>
<tr>
<td>MCB 5205</td>
<td>Infectious Process</td>
<td>PR: MCB 2013C or C.I. Discussion of current theories of the infectious process and the response of host cells and tissue to infection.</td>
</tr>
<tr>
<td>MCB 6417</td>
<td>Microbial Metabolism</td>
<td>PR: C.I. Relationship between microbial metabolism and principal cellular activities, emphasizing transport, respiration, differentiation, and synthesis.</td>
</tr>
<tr>
<td>MET 3002</td>
<td>Fundamentals of Meteorology and Climatology</td>
<td>PR: MAT 1033 or C.I. Studies of the physical processes that determine the climate of a region. The methods of measurement and use of meteorological parameters.</td>
</tr>
<tr>
<td>MET 5710</td>
<td>Meteorology for Engineers</td>
<td>PR: MAC 3313. Studies of the atmospheric processes from physical thermodynamics and synoptic viewpoints.</td>
</tr>
<tr>
<td>MGF 1124</td>
<td>Principles of Mathematics</td>
<td>PR: Two years of high school mathematics or C.I. Selected topics in mathematics with primary emphasis on developing conceptual understanding and broadening insight into mathematics. Not intended for students in business, engineering or science.</td>
</tr>
<tr>
<td>MHF 2300</td>
<td>Logic and Proof in Mathematics</td>
<td>PR: Two years of high school algebra and one year of geometry or C.I. Basic mathematical logic. Methods of proof in mathematics. Application of proofs to elementary mathematical structures.</td>
</tr>
<tr>
<td>MHF 3104</td>
<td>Boolean Algebra</td>
<td>PR: MAC 3312 or C.I. Axiomatic development of Boolean algebra. The algebras of sets, logic and circuits as Boolean algebras.</td>
</tr>
<tr>
<td>MHF 4404</td>
<td>History of Mathematics</td>
<td>PR: MAC 3312 or C.I. A chronological study of the evolution of mathematical thought from primitive counting through modern ideas of the twentieth century. Recommended for prospective teachers in mathematics.</td>
</tr>
<tr>
<td>MHF 5306</td>
<td>LOGIC</td>
<td>PR: COT 4001 or MAS 3103 or MAS 4301 or C.I. Propositional and predicate calculus; completeness and compactness; undecidability of arithmetic.</td>
</tr>
<tr>
<td>MHF 6325</td>
<td>Recursive Function Theory</td>
<td>PR: COT 4001 or C.I. Primitive recursive functions, recursive functions, recursively enumerable sets and relations, Turing reducibility.</td>
</tr>
<tr>
<td>MIS 1031</td>
<td>Basic Military Science</td>
<td>Organization of the Army and ROTC. Career opportunities, significance of military courtesy, discipline, customs, and traditions. Analysis of weapons, equipment and historical growth of Army.</td>
</tr>
<tr>
<td>MIS 1400</td>
<td>Fundamentals of Leadership Development</td>
<td>Development of leadership abilities through practical exercises. Fundamentals of Land navigation will be discussed. Field training exercises will allow student practical application of leadership techniques.</td>
</tr>
<tr>
<td>MIS 2120</td>
<td>The Threat</td>
<td>Comparison of the United States Army with foreign armies. To include current threat and potential use of nuclear, biological and chemical warfare. Introduction to Communications.</td>
</tr>
<tr>
<td>MIS 2300</td>
<td>Small Unit Tactics</td>
<td>Small Unit tactics with emphasis on patrolling. Advanced map reading, including military geography, land navigation, use of the compass, and military symbols will be discussed.</td>
</tr>
<tr>
<td>MIS 3301</td>
<td>The Small Unit Leader</td>
<td>Analysis of the leader's role in directing and coordinating efforts of small units in tactical operations. Includes geography, weapon systems, intelligence, and internal defense.</td>
</tr>
<tr>
<td>MIS 3410</td>
<td>Leadership Responsibilities</td>
<td>A description of the role and responsibility of the small unit leader. Case studies in leadership and management. Principles of military instruction.</td>
</tr>
<tr>
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<tr>
<td>MIS 4421</td>
<td>Military Law</td>
<td>A study of military law; the Army's maintenance management system; and a study of the obligations and responsibilities of the newly commissioned officer.</td>
</tr>
<tr>
<td>MIS 4430</td>
<td>Advanced Military Science</td>
<td>Study of the decision-making process; staff organization, estimating process, and staff studies. Analysis of administration, personnel and Army supply system.</td>
</tr>
<tr>
<td>MLS 3220C</td>
<td>Techniques in Clinical Microscopy</td>
<td>Analysis of human urine and other body specimens, chemically and microscopically; interpretation of abnormal results and their correlation to disease included.</td>
</tr>
<tr>
<td>MLS 3305</td>
<td>Hematology</td>
<td>PR: PCB 3703, CHM 2047 or C.I. Diagnostic procedures and morphologic interpretation; correlation of this data to disease.</td>
</tr>
<tr>
<td>MLS 4405</td>
<td>Clinical Pathogenic Microbiology</td>
<td>PR or CR: MCB 3203 C and admission to the professional phase of the MLS program. Isolation &amp; pathogenic bacteria &amp; serological methods; interpretation of abnormal results, with correlation to disease.</td>
</tr>
<tr>
<td>MLS 4420C</td>
<td>Clinical Mycology</td>
<td>PR: Admission to the professional phase of the MLS program with C.I. Instruction and laboratory practice in the isolation and identification of fungi associated with mycotic infections of man.</td>
</tr>
<tr>
<td>MLS 4431C</td>
<td>Clinical Parasitology</td>
<td>PR: Admission to the professional phase of the MLS program or C.I. Instruction and laboratory practice in the examination and study of clinical material for the detection and identification of animal parasites.</td>
</tr>
<tr>
<td>MLS 4625C</td>
<td>Advanced Clinical Chemistry I</td>
<td>PR or CR: BCH 3313 and admission to the professional phase of the MLS program. Theory and practice in clinical chemistry techniques; carbohydrates, protein, electrophoresis, enzymes.</td>
</tr>
<tr>
<td>MLS 4630C</td>
<td>Advanced Clinical Chemistry II</td>
<td>PR: MLS 4625C. Autoanalyzer, flame photometry, blood gases, RIA.</td>
</tr>
<tr>
<td>MLS 4831C</td>
<td>Clinical Practice I</td>
<td>PR: Admission to the professional phase of MLS program or rotation in one or more of the following areas: Hematology, Chemistry, Microbiology, Blood Bank, Serology-Coagulation, Clinical Microscopy, Nuclear Medicine.</td>
</tr>
<tr>
<td>MLS 4832C</td>
<td>Clinical Practice II</td>
<td>PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4830C.</td>
</tr>
<tr>
<td>MLS 4833C</td>
<td>Clinical Practice III</td>
<td>PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4831C.</td>
</tr>
<tr>
<td>MLS 4834C</td>
<td>Clinical Practice IV</td>
<td>PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4832C.</td>
</tr>
<tr>
<td>MLS 4910</td>
<td>Clinical Research Projects</td>
<td>PR: Admission to professional phase of Medical Technology Program or C.I. Individual projects, requiring library research and laboratory investigation, culminating in a written report and presentation.</td>
</tr>
<tr>
<td>MMC 4200</td>
<td>Communication Law</td>
<td>The legal rights and responsibilities of the mass media.</td>
</tr>
<tr>
<td>MMC 4300</td>
<td>International Communication and the Foreign Press</td>
<td>A study of the news communicating systems of the world.</td>
</tr>
<tr>
<td>MMC 4602</td>
<td>Contemporary Media Issues</td>
<td>Relationships between the mass media and society; examination of social and ethical issues and responsibilities of the media, including the media's relationship with government.</td>
</tr>
</tbody>
</table>
Opinion and the Mass Media: Role of the media in influencing public attitudes on both the domestic and international levels.

Mass Media and Popular Culture: An impact of mass media upon American culture past to present.

Communication Internship: PR: C.I. Internship in radio, television, film, journalism, public relations, advertising and speech involving practicum at selected communication organizations for one quarter.

Comparative International Communication Organizations: A study of the principal mass communication organizations of the world.

Communication and Society: The importance of the mass media, their structure and role. Also, current issues, criticisms and interaction with government.

Persuasion in the Media: Study of persuasive campaign with focus upon ethics, methodology, and strategies toward accomplishing the communication end.

Effects of Advertising on Society: An in-depth study of advertising's effects on consumer behavior, societal mores and media economics.

Medical Record Administration I: An introduction to the profession.

Medical Record Administration II: PR: MRE 3000C or C.I. Problems oriented medical record; accreditation and certification; release of information, medical staff committees; record analysis.


Directed Clinical Experience I: PR: MRE 3000C. Interdepartmental experience in selected health care facilities. Quantitative and qualitative record analysis numbering and filing, etc. will be performed in medical record administration laboratory.

Health Information Retrieval Systems: PR: MRE 3000 or C.I. The development of health statistics, registers and indices and their application for quality assurance, research and management.

Medical Record Department Management: Analysis and Problem Solving. Management functions in Medical Record Department.

Health Care Records: PR: MRE 3110C or C.I. Medical Record standards and procedures for long term ambulatory, home health care and guidelines for consulting inservice education. Field trips.


Directed Clinical Experience III: Supervised clinical experience and continuation of MRE 4830. Professional management of previous areas covered. Sixteen hours in skilled nursing facility.

Directed Clinical Experience IV

Management Affiliation: Four weeks at a selected health facility serving in an administrative capacity under the direction of a Registered Record Administrator.

Medical Record Research: PR: MRE 4210, ENC 3210, COM 3110. Basic research topic design; completion of research project; oral presentations; grantsmanship.

Modern Geometries: PR: MAC 3311 or C.I. Sets of axioms and finite geometries, groups of transformations, Euclidian motions of 2-space and 3-space, convexity in 2-space and 3-space. Euclidean geometry of polygon and circle, constructible numbers, constructions and non-Euclidean geometry.

Introduction to Topology: PR: MHF 2300 or C.I. Metric spaces, topological spaces, limit points, continuity, compactness, and connectedness.
MUC 1101 Composition I: Private and/or class instruction. Creative work in small forms. Open to non-music majors. May be repeated for credit.

MUC 3203 Composition II: PR: C.I. by audition. Creative work in large and small forms in the area of choral, instrumental and keyboard media. May be repeated for credit.

MUE 3401 Music in the Elementary School: Fundamental procedures for teaching elementary school music, stressing appropriate music materials and activities for different age groups; selected experience in music.


MUE 4350 Secondary School Music Instructional Analysis: PR: MUE 4330 or C.I. Instructional planning, techniques and materials in middle junior high school classrooms; consideration of general music education program; evaluation materials and procedures.


MUE 5611 Trends in Elementary School Music Education: PR: MUE 3401 or equivalent, or C.I. Advanced study of instructional strategies and materials; integration of music education experiences with classroom activities; personal musical skill development; current research and new curricula.

MUE 6155 Teaching Performing Organizations: PR: Regular Certificate or C.I. Techniques and skills for planning, administering and directing performing music organizations. Examination of historical & philosophical foundations of music education.


MUE 6348 Practicum in Music Education: PR: Regular Certificate, MUE 6349 and MUE 6155, or C.I. Field experience in teaching music.

MUG 3101 Basic Conducting: Fundamental techniques and practice in conducting.

MUG 3201 Choral Conducting: PR: MUG 3101. Fundamental principles of choral conducting and rehearsal techniques. May be repeated for credit.

MUG 3301 Instrumental Conducting: PR: MUG 3101. Fundamental principles of instrumental conducting and rehearsal techniques. May be repeated for credit.

MUG 4102 Advanced Conducting: PR: C.I. Study of advanced vocal or instrumental conducting techniques. Rehearsal procedures, selection of materials and program-building, interpretation of scores, study and performance of selected works.

MUH 4211 History and Literature: PR: MUT 2112. In depth study of the development of Western musical styles from antiquity to present.

MUH 4212 History and Literature: PR: MUT 3116. Continuation of MUH 4211.

MUH 4218 Review of Music History: PR: C.I. A review of music history from Ancient Greece to the present.


MUH 4361 Seminar: Music Since Bach: PR: Satisfactory music history placement exam. Selected topics from the origins of Classicism through the nineteenth century. Emphasis on stylistic development and formal analysis.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Prerequisites</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUL 2011</td>
<td>Enjoyment of Music: Only non-music majors. Designed to develop an understanding of musical principles and techniques for listening to music.</td>
<td>AS 3(2,1)</td>
<td></td>
</tr>
<tr>
<td>MUL 3401</td>
<td>Piano Literature: PR: Major in Music or C.I. Survey of stringed keyboard literature from the sixteenth century to the present with emphasis on technical, formal and performance problems.</td>
<td>AS 2(1,1)</td>
<td></td>
</tr>
<tr>
<td>MUL 3402</td>
<td>Piano Literature: PR: MUL 3401. Continuation of MUL 3401.</td>
<td>AS 2(1,1)</td>
<td></td>
</tr>
<tr>
<td>MUL 3622</td>
<td>Song Literature: PR: Major in Music or C.I. Survey of the development of the art song from the Middle Ages to the present with emphasis on technical, formal and performance problems.</td>
<td>AS 1(1,0)</td>
<td></td>
</tr>
<tr>
<td>MUL 3622</td>
<td>Song Literature: PR: MUL 3622. Continuation of MUL 3622.</td>
<td>AS 1(1,0)</td>
<td></td>
</tr>
<tr>
<td>MUL 3440</td>
<td>Reading Chorus: Open to all students. A survey of junior and senior high school choral literature.</td>
<td>AS 0(3,0)</td>
<td></td>
</tr>
<tr>
<td>MUL 3670</td>
<td>Opera Workshop: PR: C.I. Study of expressive emotion in relation to musical theatre; staging and performance of prepared studies.</td>
<td>AS 3(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3110</td>
<td>Major Performing Organizations—Marching Band: PR: Admission by audition. Preparation for appearance at football games and special occasions.</td>
<td>AS 2(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3120</td>
<td>Major Performing Organizations—Concert Band: Open to all students with audition. Study and performance of music for large ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3140</td>
<td>Major Performing Organizations—Wind Ensemble: Open to all students by audition. Study and performance of music for small ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3280</td>
<td>Major Performing Organizations—Community Orchestra: PR: C.I. Open to all students. Study and performance of music for large ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3310</td>
<td>Music Performing Organizations—Mixed Chorus: Open to all students. Study and performance of music for large ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3340</td>
<td>Chamber Music Ensembles—Chorus: Open to all students by audition. Study and performance of music for small ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3410</td>
<td>Chamber Music Ensembles—Chorus: Open to all students by audition. Study and performance of music for small ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3420</td>
<td>Chamber Music Ensembles—Woodwind: Open to all students. Study and performance of music for small ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3430</td>
<td>Chamber Music Ensembles—Brass: Open to all students. Study and performance of music for small ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3440</td>
<td>Chamber Music Ensembles—Percussion: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3450</td>
<td>Chamber Music Ensembles—Piano: Open to Music Majors or C.I. Study and performance of music for small ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3710</td>
<td>Chamber Music Ensembles—Jazz/Pop: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUN 3711</td>
<td>Chamber Music Ensembles—Jazz/Pop: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.</td>
<td>AS 1(0,3)</td>
<td></td>
</tr>
<tr>
<td>MUS 1011</td>
<td>Music Forum: A series of special musical events required of music majors. Includes lectures and recitals by faculty, students, and guest artists.</td>
<td>AS 0(3,0)</td>
<td></td>
</tr>
</tbody>
</table>

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MUS 3420  AS 2(1,1)

MUS 3670  AS 3(3,0)
Music in Society: Open to all students. Social functions of music and its relationship with other arts.

MUS 4401  AS 2(1,1)
Studio Teaching: PR: C.I. Management of the music studio; responsibilities and techniques of private instruction for the studio teacher; principles of psychology of music. May be repeated for credit.

MUS 4905  AS 1-4(0,4)
Directed Experience: PR: C.I. and Junior Standing. Special topics of study and/or research as determined by student/faculty consultation. May be repeated for credit.

MUT 1210  AS 1(1,1)
Ear Training I: PR: MUT 2111 or C.I. Aural comprehension of elements of music—rhythm, melody, harmony, form. May be repeated for credit.

MUT 1211  AS 1(1,1)
Ear Training II: PR: MUT 1210 or C.I. Continuation of MUT 1210. May be repeated for credit.

MUT 1221  AS 1(1,1)
Sight Singing I: PR: MUT 2111 or C.I. Visual/oral comprehension of elements of music—rhythm, melody, harmony, form. May be repeated for credit.

MUT 1222  AS 1(1,1)
Sight Singing II: PR: MUT 1221 or C.I. Continuation of MUT 1221. May be repeated for credit.

MUT 2111  AS 3(3,0)
Music Theory: Open to all students. Writing, performance, analysis of music of various stylistic periods.

MUT 2112  AS 3(3,0)
Music Theory: PR: MUT 2111. Continuation of MUT 2111.

MUT 3011  AS 3(3,0)
Music Theory for Non-Majors: Not open to students majoring or minoring in music. Develops fundamental skills in reading and writing music.

MUT 3116  AS 3(3,0)
Music Theory: PR: MUT 2112. Continuation of MUT 2111-2112; writing, performance, and analysis of music or various stylistic periods.

MUT 3117  AS 3(3,0)

MUT 3311  AS 2(1,1)

MUT 4031  AS 1(1,0)
Review of Music Theory: PR: C.I. A comprehensive review of harmonic and analytic skills. May be repeated for credit.

MUT 4275  AS 2(2,0)
Review of Sight-Singing and Ear Training: An intensive review of aural skills. May be repeated for credit.

MUT 4344  AS 2(1,1)

MUT 4431  AS 3(3,0)
Music Theory: PR: MUT 3117. Continuation of MUT 3116-3117; writing, performance, and analysis of music of various stylistic periods.

MUT 5325  AS 2(2,0)

MVB 1210  AS 1(1,1)
Secondary Performance—Brass Class: Private and/or class instruction in beginning brass playing.

MVB 1211  AS 1(1,1)
Secondary Performance—Brasses (Trumpet): Private and/or class instruction in beginning trumpet playing.

MVB 1212  AS 1(1,1)
Secondary Performance—Brasses (Horn): PR: MVB 1211 and MVB 1213 or MVB 1214 or MVB 1215. Private and/or class instruction in beginning horn playing.

MVB 1213  AS 1(1,1)
Secondary Performance—Brasses (Trombone): Private and/or class instruction in beginning trombone playing.
<table>
<thead>
<tr>
<th>Code</th>
<th>AS</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVB 1214</td>
<td>1(1)</td>
<td>Secondary Performance—Brasses (Baritone Horn)</td>
<td>Private and/or class instruction in beginning baritone playing.</td>
</tr>
<tr>
<td>MVB 1215</td>
<td>1(1)</td>
<td>Secondary Performance—Brasses (Tuba)</td>
<td>Private and/or class instruction in beginning tuba playing.</td>
</tr>
<tr>
<td>MVB 2311</td>
<td>2(1)</td>
<td>Principal Performance I—Brasses (Trumpet)</td>
<td>PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 2312</td>
<td>2(1)</td>
<td>Principal Performance I—Brasses (Horn)</td>
<td>PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 2313</td>
<td>2(1)</td>
<td>Principal Performance I—Brasses (Trombone)</td>
<td>PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 2314</td>
<td>2(1)</td>
<td>Principal Performance—Brasses (Baritone Horn)</td>
<td>PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 2315</td>
<td>2(1)</td>
<td>Principal Performance I—Brasses (Tuba)</td>
<td>PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 3321</td>
<td>2(1)</td>
<td>Principal Performance II—Brasses (Trumpet)</td>
<td>PR: MVB 2311 and competence determined by faculty jury. Continuation of MVB 2311. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 3322</td>
<td>2(1)</td>
<td>Principal Performance II—Brasses (Horn)</td>
<td>PR: MVB 2312 and competence determined by faculty jury. Continuation of MVB 2312. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 3323</td>
<td>2(1)</td>
<td>Principal Performance II—Brasses (Trombone)</td>
<td>PR: MVB 2312 and competence determined by faculty jury. Continuation of MVB 2312. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 3324</td>
<td>2(1)</td>
<td>Principal Performance II—Brasses (Baritone Horn)</td>
<td>PR: MVB 2314 and competence determined by faculty jury. Continuation of MVB 2314. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 3325</td>
<td>2(1)</td>
<td>Principal Performance II—Brasses (Tuba)</td>
<td>PR: MVB 2315 and competence determined by faculty jury. Continuation of MVB 2315. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4331</td>
<td>2(1)</td>
<td>Principal Performance III—Brasses (Trumpet)</td>
<td>PR: MVB 3321 and competence determined by faculty jury. Continuation of MVB 3321. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4332</td>
<td>2(1)</td>
<td>Principal Performance III—Brasses (Horn)</td>
<td>PR: MVB 3322 and competence determined by faculty jury. Continuation of MVB 3322. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4333</td>
<td>2(1)</td>
<td>Principal Performance III—Brasses (Trombone)</td>
<td>PR: MVB 3322 and competence determined by faculty jury. Continuation of MVB 3322. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4334</td>
<td>2(1)</td>
<td>Principal Performance III—Brasses (Baritone Horn)</td>
<td>PR: MVB 3324 and competence determined by faculty jury. Continuation of MVB 3324. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4335</td>
<td>2(1)</td>
<td>Principal Performance III—Brasses (Tuba)</td>
<td>PR: MVB 3325 and competence determined by faculty jury. Continuation of MVB 3325. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4341</td>
<td>2(1)</td>
<td>Principal Performance IV—Brasses (Trumpet)</td>
<td>PR: MVB 4331 and competence determined by faculty jury. Continuation of MVB 4331. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4342</td>
<td>2(1)</td>
<td>Principal Performance IV—Brasses (Horn)</td>
<td>PR: MVB 4332 and competence determined by faculty jury. Continuation of MVB 4332. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4343</td>
<td>2(1)</td>
<td>Principal Performance IV—Brasses (Trombone)</td>
<td>PR: MVB 4333 and competence determined by faculty jury. Continuation of MVB 4333. May be repeated for credit.</td>
</tr>
<tr>
<td>MVB 4344</td>
<td>2(1)</td>
<td>Principal Performance IV—Brasses (Baritone Horn)</td>
<td>PR: MVB 4334 and competence determined by faculty jury. Continuation of MVB 4334. May be repeated for credit.</td>
</tr>
</tbody>
</table>
MVB 4345  AS 2(1,1)  
Principal Performance IV—Brasses (Tuba): PR: MVB 4335 and competence determined by faculty jury. Continuation of MVB 4335. May be repeated for credit.

MVB 5251  AS 1(1,0)  
Secondary Graduate Performance—Brasses (Trumpet): PR: C.I.

MVB 5252  AS 1(1,0)  
Secondary Graduate Performance—Brasses (Horn): PR: C.I.

MVB 5253  AS 1(1,0)  
Secondary Graduate Performance—Brasses (Trombone): PR: C.I.

MVB 5254  AS 1(1,0)  
Secondary Graduate Performance—Brasses (Baritone Horn): PR: C.I.

MVB 5351  AS 2(1,1)  
Principal Graduate Performance—Brasses (Tuba): PR: C.I.

MVB 5352  AS 2(1,1)  
Principal Graduate Performance—Brasses (Horn): PR: C.I.

MVB 5353  AS 2(1,1)  
Principal Graduate Performance—Brasses (Trombone): PR: C.I.

MVB 5354  AS 2(1,1)  
Principal Graduate Performance—Brasses (Baritone Horn): PR: C.I.

MVB 5355  AS 2(1,1)  
Principal Graduate Performance—Brasses (Tuba): PR: C.I.

MVK 1111  AS 1(0,2)  
Class Piano I: Class instruction for beginning piano students. Not open to music majors whose major performing medium is piano. May be repeated for credit.

MVK 1121  AS 1(0,2)  
Class Piano II: PR: MVK 1111 or C.I. Not open to music majors whose major performing medium is piano. May be repeated for credit.

MVK 1131  AS 1(0,2)  
Class Piano III: PR: MVK 1121 or C.I. Preparation for the piano proficiency examination. May be repeated for credit.

MVK 1141  AS 1(1,1)  
Class Piano IV: PR: Satisfactory piano proficiency examination and C.I. Individualized instruction. Open to non-music majors. May be repeated for credit.

MVK 1211  AS 1(1,1)  
Secondary Performance—Piano: Private and/or class instruction in beginning piano playing.

MVK 1213  AS 1(1,1)  
Secondary Performance—Organ: Private and/or class instruction in beginning organ playing.

MVK 2311  AS 2(1,1)  
Principal Performance I—Piano: PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVK 2313  AS 2(1,1)  
Principal Performance I—Organ: PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVK 3321  AS 2(1,1)  
Principal Performance II—Piano: PR: MVK 2311 and competence determined by faculty jury. Continuation of MVK 2311. May be repeated for credit.

MVK 3323  AS 2(1,1)  
Principal Performance II—Organ: PR: MVK 2313 and competence determined by faculty jury. Continuation of MVK 2313. May be repeated for credit.

MVK 3331  AS 2(1,1)  
Principal Performance III—Piano: PR: MVK 3321 and competence determined by faculty jury. Continuation of MVK 3321. May be repeated for credit.

MVK 3333  AS 2(1,1)  
Principal Performance III—Organ: PR: MVK 3323 and competence determined by faculty jury. Continuation of MVK 3323. May be repeated for credit.

MVK 4341  AS 2(1,1)  
Principal Performance IV—Piano: PR: MVK 4331 and competence determined by faculty jury. Continuation of MVK 4331. May be repeated for credit.

MVK 4343  AS 2(1,1)  
Principal Performance IV—Organ: PR: MVK 4333 and competence determined by faculty jury. Continuation of MVK 4333. May be repeated for credit.
MVK 4640  AS 1(1,0)
Plano Pedagogy I: PR: C.I. Methods, materials for teaching individuals and classes of children and adults beginning to intermediate levels; demonstration and observation of procedures. May be repeated for credit.

MVK 4641  AS 1(1,0)
Plano Pedagogy II: PR: C.I. Continuation of MVK 4640. Emphasis on intermediate through advanced levels. May be repeated for credit.

MVK 5251  AS 1(1,0)
Secondary Graduate Performance—Plano: PR: C.I.

MVK 5253  AS 1(1,0)
Secondary Graduate Performance—Organ: PR: C.I.

MVK 5351  AS 2(1,1)
Principal Graduate Performance—Plano: PR: C.I.

MVO 1214  AS 1(1,1)
Secondary Performance—Recorder: Private and/or class instruction in beginning recorder playing.

MVO 3114  AS 3(2,1)
Recorder I: Open to non-music majors. Class instruction in beginning recorder playing.

MVO 3124  AS 2(1,1)
Recorder II: Class instruction in advanced recorder solo and ensemble playing. PR: C.I. Open to music students and non-music students who have taken MVO 3114.

MVP 1211  AS 1(1,1)
Secondary Performance—Percussion: Private and/or class instruction in beginning percussion playing.

MVP 2311  AS 2(1,1)
Principal Performance I—Percussion: PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVP 3321  AS 2(1,1)
Principal Performance II—Percussion: PR: MVP 2311 and competence determined by faculty jury. Continuation of MVP 2311. May be repeated for credit.

MVP 4331  AS 2(1,1)
Principal Performance III—Percussion: PR: MVP 3321 and competence determined by faculty jury. Continuation of MVP 3321. May be repeated for credit.

MVP 4341  AS 2(2,1)
Principal Performance IV—Percussion: PR: MVP 4331 and competence determined by faculty jury. Continuation of MVP 4331. May be repeated for credit.

MVP 5251  AS 1(1,0)
Secondary Graduate Performance—Percussion: PR: C.I.

MVP 5351  AS 2(1,1)
Principal Graduate Performance—Percussion: PR: C.I.

MVS 1210  AS 1(1,1)
Secondary Performance—String Class: Private and/or class instruction in beginning string playing.

MVS 1211  AS 1(1,1)
Secondary Performance—Strings (Violin): Private and/or class instruction in beginning violin playing.

MVS 1212  AS 1(1,1)
Secondary Performance—Strings (Viola): Private and/or class instruction in beginning viola playing.

MVS 1213  AS 1(1,1)
Secondary Performance—Strings (Cello): Private and/or class instruction in beginning cello playing.

MVS 1214  AS 1(1,1)
Secondary Performance—Strings (Bass): Private and/or class instruction in beginning bass playing.

MVS 1215  AS 1(1,1)
Secondary Performance—Guitar: Private and/or class instruction in beginning guitar playing.

MVS 1876  AS 1(0,1)
Guitar I: Open only to non-music majors. Class instruction in beginning guitar playing.

MVS 2311  AS 2(1,1)
Principal Performance I—Strings (Violin): PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVS 2312  AS 2(1,1)
Principal Performance I—Strings (Viola): PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVS 2313  AS 2(1,1)
Principal Performance I—Strings (Cello): PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.
MVS 2314
Principal Performance I—Strings (Bass): PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVS 2316
Principal Performance I—Guitar: PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVS 2826
Guitar II: Open to music students or non-music students who have taken Guitar I or C.I. Class instruction in advanced guitar solo and ensemble playing.

MVS 3321
Principal Performance II—Strings (Violin): PR: MVS 2311 and competence determined by faculty jury. Continuation of MVS 2311. May be repeated for credit.

MVS 3322
Principal Performance II—Strings (Viola): PR: MVS 2312 and competence determined by faculty jury. Continuation of MVS 2312. May be repeated for credit.

MVS 3323
Principal Performance II—Strings (Cello): PR: MVS 2313 and competence determined by faculty jury. Continuation of MVS 2313. May be repeated for credit.

MVS 3324
Principal Performance II—Strings (Bass): PR: MVS 2314 and competence determined by faculty jury. Continuation of MVS 2314. May be repeated for credit.

MVS 3326
Principal Performance II—Guitar: PR: MVS 2326 and competence determined by faculty jury. Continuation of MVS 2326. May be repeated for credit.

MVS 4331
Principal Performance III—Strings (Violin): PR: MVS 3321 and competence determined by faculty jury. Continuation of MVS 3321. May be repeated for credit.

MVS 4332
Principal Performance III—Strings (Viola): PR: MVS 3322 and competence determined by faculty jury. Continuation of MVS 3322. May be repeated for credit.

MVS 4333
Principal Performance III—Strings (Cello): PR: MVS 3323 and competence determined by faculty jury. Continuation of MVS 3323. May be repeated for credit.

MVS 4334
Principal Performance III—Strings (Bass): PR: MVS 3324 and competence determined by faculty jury. Continuation of MVS 3324. May be repeated for credit.

MVS 4338
Principal Performance III—Guitar: PR: MVS 3326 and competence determined by faculty jury. Continuation of MVS 3326. May be repeated for credit.

MVS 4341
Principal Performance IV—Strings (Violin): PR: MVS 4331 and competence determined by faculty jury. Continuation of MVS 4331. May be repeated for credit.

MVS 4342
Principal Performance IV—Strings (Viola): PR: MVS 4332 and competence determined by faculty jury. Continuation of MVS 4332. May be repeated for credit.

MVS 4343
Principal Performance IV—Strings (Cello): PR: MVS 4333 and competence determined by faculty jury. Continuation of MVS 4333. May be repeated for credit.

MVS 4344
Principal Performance IV—Strings (Bass): PR: MVS 4334 and competence determined by faculty jury. Continuation of MVS 4334. May be repeated for credit.

MVS 4346
Principal Performance IV—Guitar: PR: MVS 4336 and competence determined by faculty jury. Continuation of MVS 4336. May be repeated for credit.

MVS 5251
Secondary Graduate Performance—Strings (Violin): PR: C.I.

MVS 5252
Secondary Graduate Performance—Strings (Viola): PR: C.I.

MVS 5253
Secondary Graduate Performance—Strings (Cello): PR: C.I.

MVS 5254
Secondary Graduate Performance—Strings (Bass): PR: C.I.

MVS 5351
Principal Graduate Performance—Strings (Violin): PR: C.I.
MVS 5352
Principal Graduate Performance—Strings (Viola): PR: C.I.

MVS 5353
Principal Graduate Performance—Strings (Cello): PR: C.I.

MVS 5354
Principal Graduate Performance—Strings (Bass): PR: C.I.

MVV 1211
Secondary Performance—Voice: Private and/or class instruction in beginning voice. May be repeated for credit.

MVV 2311
Principal Performance I—Voice: PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVV 3321
Principal Performance II—Voice: PR: MVV 2311 and competence determined by faculty jury. Continuation of MVV 2311. May be repeated for credit.

MVV 4331
Principal Performance III—Voice: PR: MVV 3321 and competence determined by faculty jury. Continuation of MVV 3321. May be repeated for credit.

MVV 4641
Voice Pedagogy II: PR: C.I. Continuation of MVV 4640. Intermediate to advanced levels. May be repeated for credit.

MVV 5251
Secondary Graduate Performance—Voice: PR: C.I.

MVV 5351
Principal Graduate Performance—Voice: PR: C.I.

MVW 1210
Secondary Performance Woodwind Class: Private and/or class instruction in beginning woodwind playing.

MVW 1211
Secondary Performance—Woodwinds (Flute): Private and/or class instruction in beginning flute playing.

MVW 1212
Secondary Performance—Woodwinds (Oboe): PR: MVW 1211 and MVW 1213. Private and/or class instruction in beginning oboe playing.

MVW 1213
Secondary Performance—Woodwinds (Clarinet): Private and/or class instruction in beginning clarinet playing.

MVW 1214
Secondary Performance—Woodwinds (Bassoon): PR: MVW 1211 and MVW 1213. Private and/or class instruction in beginning bassoon playing.

MVW 1215
Secondary Performance—Woodwinds (Saxophone): PR: MVW 1211 and MVW 1213. Private and/or class instruction in beginning saxophone playing.

MVW 2311
Principal Performance I—Woodwinds (Flute): PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVW 2312
Principal Performance I—Woodwinds (Oboe): PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVW 2313
Principal Performance I—Woodwinds (Clarinet): PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

MVW 2314
Principal Performance I—Woodwinds (Bassoon): PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.
Principal Performance I—Woodwinds (Saxophone): PR: Major in music or consent of chairperson; audition. Private and class lessons. May be repeated for credit.

Principal Performance II—Woodwinds (Flute): PR: MVW 2311 and competence determined by faculty jury. Continuation of MVW 2311. May be repeated for credit.

Principal Performance II—Woodwinds (Oboe): PR: MVW 2312 and competence determined by faculty jury. Continuation of MVW 2312. May be repeated for credit.

Principal Performance II—Woodwinds (Clarinet): PR: MVW 2313 and competence determined by faculty jury. Continuation of MVW 2313. May be repeated for credit.

Principal Performance II—Woodwinds (Bassoon): PR: MVW 2314 and competence determined by faculty jury. Continuation of MVW 2314. May be repeated for credit.

Principal Performance II—Woodwinds (Saxophone): PR: MVW 2315 and competence determined by faculty jury. Continuation of MVW 2315. May be repeated for credit.

Principal Performance III—Woodwinds (Flute): PR: MVW 3321 and competence determined by faculty jury. Continuation of MVW 3321. May be repeated for credit.

Principal Performance III—Woodwinds (Oboe): PR: MVW 3322 and competence determined by faculty jury. Continuation of MVW 3322. May be repeated for credit.

Principal Performance III—Woodwinds (Clarinet): PR: MVW 3323 and competence determined by faculty jury. Continuation of MVW 3323. May be repeated for credit.

Principal Performance III—Woodwinds (Bassoon): PR: MVW 3324 and competence determined by faculty jury. Continuation of MVW 3324. May be repeated for credit.

Principal Performance III—Woodwinds (Saxophone): PR: MVW 3325 and competence determined by faculty jury. Continuation of MVW 3325. May be repeated for credit.

Principal Performance IV—Woodwinds (Flute): PR: MVW 4331 and competence determined by faculty jury. Continuation of MVW 4331. May be repeated for credit.

Principal Performance IV—Woodwinds (Oboe): PR: MVW 4332 and competence determined by faculty jury. Continuation of MVW 4332. May be repeated for credit.

Principal Performance IV—Woodwinds (Clarinet): PR: MVW 4333 and competence determined by faculty jury. Continuation of MVW 4333. May be repeated for credit.

Principal Performance IV—Woodwinds (Bassoon): PR: MVW 4334 and competence determined by faculty jury. Continuation of MVW 4334. May be repeated for credit.

Principal Performance IV—Woodwinds (Saxophone): PR: MVW 4335 and competence determined by faculty jury. Continuation of MVW 4335. May be repeated for credit.

Secondary Graduate Performance—Woodwinds (Flute): PR: C.I.

Secondary Graduate Performance—Woodwinds (Oboe): PR: C.I.

Secondary Graduate Performance—Woodwinds (Clarinet): PR: C.I.

Secondary Graduate Performance—Woodwinds (Bassoon): PR: C.I.

Secondary Graduate Performance—Woodwinds (Saxophone): PR: C.I.

Principal Graduate Performance—Woodwinds (Flute): PR: C.I.

Principal Graduate Performance—Woodwinds (Oboe): PR: C.I.

Principal Graduate Performance—Woodwinds (Clarinet): PR: C.I.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVW 5354</td>
<td>Principal Graduate Performance—Woodwinds (Bassoon)</td>
<td>PR: C.I.</td>
</tr>
<tr>
<td>MVW 5355</td>
<td>Principal Graduate Performance—Woodwinds (Saxophone)</td>
<td>PR: C.I.</td>
</tr>
<tr>
<td>NUR 3134C</td>
<td>Scientific Theories of Nursing II</td>
<td>Principles of maternal and infant health, with application in selected clinical settings. The family approach to the birthing process is emphasized.</td>
</tr>
<tr>
<td>NUR 3135</td>
<td>Nursing Seminar II</td>
<td>An opportunity to explore maternal/infant, fathering, sibling and family relationships.</td>
</tr>
<tr>
<td>NUR 3207C</td>
<td>Scientific Theories of Nursing I</td>
<td>Theories applicable to the nurse’s role in prevention of illness, health maintenance, acute care and rehabilitation are applied to individuals of all ages in various clinical settings.</td>
</tr>
<tr>
<td>NUR 3208</td>
<td>Nursing Seminar I</td>
<td>Discussion of current issues related to nursing practice. Exploration of specific problems associated with NUR 3207C.</td>
</tr>
<tr>
<td>NUR 3618C</td>
<td>Concepts Basic to Nursing Practice</td>
<td>Beginning principles and concepts of nursing theory and practice utilizing the nursing process in selected clinical settings.</td>
</tr>
<tr>
<td>NUR 3725C</td>
<td>Pathophysiology and Physical Assessment</td>
<td>Clinical concepts of disease processes integrated with physical assessment of clients.</td>
</tr>
<tr>
<td>NUR 4411C</td>
<td>Scientific Theories of Nursing III</td>
<td>Theories and principles of community health and psychiatric/mental health nursing. Clinical application in selected settings.</td>
</tr>
<tr>
<td>NUR 4412</td>
<td>Nursing Seminar III</td>
<td>Discussion of current trends and issues related to community health and psychiatric/mental health nursing.</td>
</tr>
<tr>
<td>NUR 4660C</td>
<td>Special Nursing Topics</td>
<td>Comprehensive nursing care to individuals with complex and critical problems.</td>
</tr>
<tr>
<td>NUR 4905C</td>
<td>Nursing Independent Study</td>
<td>An opportunity for in-depth study in an area of special interest to the student. Laboratory experience included.</td>
</tr>
<tr>
<td>NUU 3111</td>
<td>Introduction to Baccalaureate Nursing</td>
<td>Overview of baccalaureate nursing philosophy, objectives, conceptual framework, scope of practice, history, legal and ethical issues.</td>
</tr>
<tr>
<td>NUU 4225C</td>
<td>Scientific Theories IV</td>
<td>Scientific theories and principles of leadership and management of patient care. Application of the decision-making process in selected clinical experiences.</td>
</tr>
<tr>
<td>NUU 4226</td>
<td>Nursing Seminar IV</td>
<td>Nursing in today’s society.</td>
</tr>
<tr>
<td>NUU 4300</td>
<td>Critical Inquiry</td>
<td>A study of approaches to problematic situations in nursing. Selected experiences in investigating, analyzing, and interpreting nursing research.</td>
</tr>
<tr>
<td>OCE 1012</td>
<td>Oceanography and Space</td>
<td>Fundamentals of oceanography and space with emphasis on the engineering aspects and uses.</td>
</tr>
<tr>
<td>ORI 3001</td>
<td>Interpretation I</td>
<td>Analysis of thought, development of imagination; several oral presentations of a variety of literary forms. (Recommended for students majoring in English and preparing to teach literature.)</td>
</tr>
<tr>
<td>ORI 3002</td>
<td>Interpretation II</td>
<td>PR: ORI 3001 or C.I. Selecting and abridging literary material for platform use; preparation and presentation by individual groups of programs for special and general occasions.</td>
</tr>
<tr>
<td>ORI 3210</td>
<td>Interpretation III</td>
<td>PR: ORI 3001. Practice in interpretation by individuals and groups with particular emphasis on planned presentation for all age audiences, with special emphasis on children.</td>
</tr>
<tr>
<td>PAD 3003</td>
<td>Public Administration</td>
<td>An examination of the basic environment, culture, and organization of public administration in the United States.</td>
</tr>
</tbody>
</table>
The Administration of Public Policy: Problems of values, interests, and objectives and their impact on the administration of public programs, stressing the interplay between social values, policies and administration.

Ethics and Values in Public Administration: Examination of the issues of ethics in the public sector—basis for public concern, past practice, present patterns of response; individual/social aspects of ethical behavior.

Administrative Theory: A review of the behavioral aspects of the administrative process, its impact on organizational goal achievement and on supervisory strategies. Some social and structural pathologies affecting administrative practice.

Intergovernmental Administration: Various approaches to studying and explaining the American intergovernmental system. Emphasis on interorganizational activities, i.e., negotiation, cooperation, and coordination within the legal setting.

Fiscal Management: PR: C.I. Analysis of methods of securing public funds, the process of budget-making, and techniques of management used in managing public funds.

Public Personnel Administration: The history, operating components, structural characteristics and increasing impact of laws and related sanctions on personnel practices of public agencies.

Labor Relations in the Public Sector: A study of current trends and developments in employment relations in the public sector, especially employee organization, negotiations, and the collective bargaining process.

Public Administration Internship: PR: C.I. Internship in municipal, county, state or federal government, including assignments in such fields as personnel, planning, budget and fiscal, procurement and public safety.

Administrative Practice in the Public Sector: The application of various theoretical concepts to the "real world" of public administration. Policy formulation and execution, is examined through the case study mode.

Public Organizations: An examination of the nature of public organizations and the impact of bureaucratic behavior on public policy formulation, implementation, and administration.

Public Budgeting: 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.

Policy Implementation: Program analysis and organization structure as policy tools, examining the implementation of differential policy and the administrator as policy maker and change agent.

Human Resource Management: The administrator as manager and motivator of public employees with particular emphasis upon organizational behavior and contemporary public service legislation.

Analytic Techniques for Public Administration: Analysis of rational choice theories, incremental decision-making, and a variety of techniques for public administration models.

Issues in Public Administration: PR: C.I. Analysis of both substantive and theoretical issues confronting the broad spectrum of contemporary public administration.

Cell Physiology: PR: 8 hours in biological sciences or C.I. CR: CHM 3211. Basic physiological processes, cellular organization, exchange of materials, conversion of energy, irritability and contractility.

Principles of Ecology: 8 hours in biological sciences. Elements of ecosystems, biogeochemical cycling, environmental factor interactions, population dynamics and community development.


Genetics: PR: BSC 1010C. Basic principles of heredity as applied to prokaryotes and eukaryotes.
Advanced procedures. A study of performance and values variable.

Organismal Physiology: skills, rules, and etiquette. A study of performance and values variable.

Beginning Golf: Development of basic golf skills. A study of performance and application of basic skills, rules and etiquette. Physiological and social values accruing from the carryover sport.

Beginning Tennis: Development of basic tennis skills. A study of performance and application of basic skills, rules, and etiquette. Physiological and social values accruing from the carryover sport.

Advanced Golf: PR: PEL 2121C or equivalent competency. Development of advanced golf skills. A study of performance and application of advanced skills, rules, and etiquette. Physiological and social values accruing from the carryover sport.

Advanced Tennis: PR: PEL 2341C or equivalent competency. Development of advanced tennis skills. A study of performance and application of advanced skills, rules, etiquette, physiological and social values accruing from the carryover sport.
PEM 3102C
Body Development: An in-depth study of individual physical (musculoskeletal, neuromuscular, cardiorespiratory) fitness. Emphasis on individual diagnosis, principles, procedures, and the conduct of related exercise programs.

PEM 4153C
Actualization of Physical Potential in Contemporary Living: Factors underlying physical potential. Self physical assessment, values of physical activity, self-improvement, contemporary problems, body awareness, body mechanics, family responsibilities. Development of individual program.

PEN 1121C
Elementary Swimming: For non-swimmers and beginning swimmers. Development and study of technique in the basic skills of water safety and swimming.

PEN 2123C
Advanced Swimming: PR: PEN 1121C or equivalent competency. Development and study of advanced techniques, endurance in basic water safety and swimming skills; intermediate technique and endurance in a wide variety of ancillary skills.

PEN 3101C
Aquatics: PR: PEN 2123 or equivalent competency. Development and study of techniques and principles of aquatic swimming activities—safety, strokes, fitness, water polo, synchronized swimming, skin diving, springboard diving, canoeing, and family instruction methods.

PEN 3113C
Life Saving: Instruction, training and certification in basic life saving swimming skills.

PEO 3011C

PEO 3031C
Instructional Analysis of Individual Activities: Mechanical analysis of neuromuscular performances in selected individual sports activities to include archery, golf, and tennis.

PEP 3000
Instructional Analysis of Performer Centered Activities: Mechanical analysis of neuromuscular performances and optimal approaches to specific motor learning patterns in gymnastics and tumbling, wrestling and weight training.

PEQ 3101C
Instructional Analysis in Aquatics: PR: Sophomore standing or C.I. Mechanical analysis of neuromuscular performances and optimal approach to specific motor learning patterns in swimming and other aquatic activities.

PEQ 3115C
Water Safety Instruction: PR: PEN 3113C or equivalent competency. Methods of teaching water safety. Includes practical application and certification.

PET 3450C
Physical Education Instructional Analysis: PR: Admission to Junior Block or C.I. Study of course objectives for the high school curriculum and survey of methods and materials having special application for teaching Physical Education.

PET 3453
Coaching Theory and Athletic Training: Theory and methods of coaching and the recognition, treatment, and rehabilitation of sports injuries.

PET 3461C
Teaching Physical Education in the Elementary School: PR: Admission to Junior Block or C.I. Organization, practice and conduct of elementary school physical education with emphasis on teaching methods.

PET 4050C
Motor Development and Learning: PE junior standing. An analysis of the theories and factors influencing the motor development of children and the learning of gross and fine motor skills.

PET 4312C
Anatomic and Mechanical Foundations of Human Movement: Anatomic and mechanical principles significant to human movement; competencies relating to analysis and evaluation of performance skill and prescription for improvement.

PET 4370C
Exercise Physiology—Cardiovascular: PR: PET 4312C. A circulatory study of man's homeostatic regulation during environmental stress (includes lecture and laboratory).

PET 4371C
Exercise Physiology—Respiratory: PR: PET 4312C and PET 4370C. A study of metabolic costs and respiratory adjustment to exercise (includes lecture and laboratory.)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>PET 4410</td>
<td>ED 2(2,0)</td>
</tr>
<tr>
<td>Organization and Administration of Typical and Atypical Physical Education Programs: Administering and organizing physical education programs for instruction of typical and atypical students within the total school physical education program.</td>
<td></td>
</tr>
<tr>
<td>PET 4640</td>
<td>ED 3(3,0)</td>
</tr>
<tr>
<td>Adapted Physical Education: Principles and methods of adapting physical education activities and programs for atypical participants, mainstreaming rationale and methods analyzed.</td>
<td></td>
</tr>
<tr>
<td>PET 6080C</td>
<td>ED 3(2,1)</td>
</tr>
<tr>
<td>Analysis of Human Performance: Analytical techniques of kinesiology and their methods of application to individual and team activities.</td>
<td></td>
</tr>
<tr>
<td>PET 6148</td>
<td>ED 3(3,0)</td>
</tr>
<tr>
<td>Current Trends and Philosophical Foundations of Physical Education: A comprehensive analysis of current trends forces and events leading to the development of contemporary concepts in physical education.</td>
<td></td>
</tr>
<tr>
<td>PET 6285C</td>
<td>ED 3(2,1)</td>
</tr>
<tr>
<td>Perceptual Motor Development: Theoretical laboratory. Study of the relationship between perceptual motor development and learning. Special attention is given to the effects on academic achievement and reading.</td>
<td></td>
</tr>
<tr>
<td>PET 6378C</td>
<td>ED 3(2,1)</td>
</tr>
<tr>
<td>Environmental Exercise Physiology: PR: Regular Certificate or C.I. A study of physiological adaptation resulting from prescribed physical activity programs.</td>
<td></td>
</tr>
<tr>
<td>PET 6417</td>
<td>ED 3(3,0)</td>
</tr>
<tr>
<td>Administration of Physical Education and Athletic Programs: Study of current problems in the administration of school physical education and athletic programs.</td>
<td></td>
</tr>
<tr>
<td>PET 6425</td>
<td>ED 3(3,0)</td>
</tr>
<tr>
<td>Curriculum Design in Physical Education: Study of physical education and its existing organization. Emphasis on ethics, values, principles and issues.</td>
<td></td>
</tr>
<tr>
<td>PET 6516C</td>
<td>ED 3(3,0)</td>
</tr>
<tr>
<td>PET 6540</td>
<td>ED 3(3,0)</td>
</tr>
<tr>
<td>PHH 3100</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>Ancient Philosophy: Foundations of Western philosophy in ancient Greek thinking about man and nature, including the pre-Socratics, Socrates, Plato, Aristotle.</td>
<td></td>
</tr>
<tr>
<td>PHH 3400</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>Modern Philosophy: Challenges of science and religion to philosophy. Responses of faith, reason, relativism, and atheism.</td>
<td></td>
</tr>
<tr>
<td>PHH 3600</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>PHI 1100</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>Critical Thinking: An examination of fallacies and other logical abuses in conjunction with an analysis of traditional modes in an attempt to encourage meaningful thought and usage.</td>
<td></td>
</tr>
<tr>
<td>PHI 2010</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>Introduction to Philosophy: Inquiry into the meaning and justification of fundamental ideas and beliefs concerning reality, knowledge, and values; application to relevant topics in ethics, religion, and politics.</td>
<td></td>
</tr>
<tr>
<td>PHI 2130</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>Formal Logic I: Analysis of logical form and of procedures used in deductive inference, of the kind underlying mathematical reasoning.</td>
<td></td>
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<tr>
<td>PHI 3131</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>Formal Logic II: PR: PHI 2130. Systematic study of propositional and first-order predicate logic; logistic systems and axiomatic methods; problems of metatheory, including consistency, completeness and decidability.</td>
<td></td>
</tr>
<tr>
<td>PHI 3600</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>Ethics: An examination of the nature of moral problems, judgements and principles with an emphasis on recent formulations in ethical theory.</td>
<td></td>
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<tr>
<td>PHI 3630</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>Practical Moral Dilemmas: Probes practical moral problems arising out of advancements and complexities in modern professional life. Considers one or more of the following: medicine, business, technology, law.</td>
<td></td>
</tr>
</tbody>
</table>
PHI 3700
Philosophy of Religion: An examination of basic ideas, beliefs, attitudes and functions of religions; the significance of religion in human experience.

PHI 3800
Aesthetics: An investigation into the nature of human artistic experience with special reference to questions of form, perception and style.

PHI 3803
Philosophy and Creativity: A companion course to PHI 3800, Aesthetics. Examines the empirical and metaphysical claims made for creativity; attempts to account for intuition, genius and intelligence.

PHI 4220
Philosophy of Language: PR: PHI 2010 and 2130. Develops philosophically illuminating descriptions of certain general features of language, such as reference, truth, meaning, and necessity.

PHI 4360
Theory of Knowledge: PR: PHI 2010 and PHI 2130. The study of knowledge: What is it? Can we have it? Topics include skepticism, "other minds," certainty, and belief.

PHI 4400
Philosophy of Science: An examination of the conceptual foundations and methodology of modern science.

PHI 4500
Metaphysics: PR: PHI 2010 and PHI 2130. Investigates "first principles" and inquiries into the ultimate nature of reality through consideration of being, substance, essence, space, time, cause and effect.

PHI 4770
Atheism: A study of the principal theoretical and practical objections to theism.

PHM 3350
Introduction to Marxist Philosophy: A study of the fundamental principles of Marxist philosophy, developed by Marx, Engels and Lenin.

PHP 3786
Existentialism: Study of existentialist analysis and criticisms of the human situations as found in the writings of such philosophers as Kierkegaard, Nietzsche, Heidegger, Sartre, and Camus.

PHP 4788
Contemporary Marxism: An examination of major issues in current Marxist-Leninist philosophy.

PHS 3151
Computer Methods in Physics: PR: PHY 2040 and COP 1110 or C.I. Nonanalytical problems in physics and astronomy solved by approximation with computer assistance.

PHS 3303

PHS 3805
Physical Basis of Music: Lectures, demonstrations, student activity; covers topics in wavemotion, acoustics of musical instruments, musical scales, timbre, architectural acoustics, human ear, sound reproduction.

PHS 4404
Solid State Physics: PR: PHY 3046 or C.I. Properties of solids, crystal binding, free electron model, band theory of solids. Fermi surface, and solid state applications.

PHY 2040

PHY 2040L
University Physics Laboratory I: CR: PHY 2040. Laboratory experiments covering selected topics in physics.

PHY 2041
University Physics II: PR: PHY 2040; CR: MAC 3312 Light, sound, electricity, magnetism, alternating current.

PHY 2041L
University Physics Laboratory II: CR: PHY 2041. Continuation of physics laboratory instruction.

PHY 2050C
College Physics I: PR: Two years of high school mathematics or C.I. Kinematics, Newtons laws, circular motion, torque, center gravity, work, energy, power, machines, waves, sound electricity, currents, magnetism, induction, generators, motors, geometrical optics, eye, camera, telescope, microscope.
PHY 2051C
College Physics II: PR: PHY 2050C or one year of high school physics. Fluids, Bernoulli viscosity, kinetic theory, osmosis, heat, thermodynamics, latent heat, conduction, convection, radiation, DC-AC circuits, instrumentation, semiconductors, physical optics, interference, polarization, X-rays, radioactivity, detectors, shielding, dosimetry.

PHY 3014C
Project Physics I: "Hand-on" lecture-laboratory course, particularly for Elementary Education majors and prospective Junior High science teachers. Weather forces, motion, energy, solids, liquids, gases, heat, solar energy.

PHY 3015C
Project Physics II: Naked eye astronomy, waves, sound, electricity, magnetism, motors, light, color, photography, nuclear radiation.

PHY 3034
Physics of Science Fiction: PR: PSC 1512 or C.I. Study and discussion of physical principles which form the basis of selected science fiction themes.

PHY 3043

PHY 3044

PHY 3045

PHY 3046
Thermodynamics and Statistical Physics: PR: PHY 3421C. Equations of state, equilibrium thermodynamics, derivation of variables from probability concepts and statistical physics, distribution functions.

PHY 3421C
Optics and Modern Physics: PR: PHY 2041 or C.I. Geometric optics, ray diagrams, polarization, diffraction, interference, atomic, molecular, nuclear, solid state physics, spectroscopy, x-rays, nuclear radiation.

PHY 3722C
Physics Laboratory—Electronics: PR: PHY 3752C or C.I. State-of-art electronics, transducers, operational amplifiers, phase sensitive circuits, active filters.

PHY 3752C

PHY 3802L
Intermediate Physics Laboratory: PR: PHY 3421C or C.I. Laboratory work in basic measurements of physical constants; intermediate level experiments in electronics, modern physics, nuclear physics, optics and solid state physics.

PHY 4424
Optics: PR: PHY 3421C. Wave optics absorption, stimulated emission, lasers, transforms, coherence, holography.

PHY 4604
Quantum Mechanics: PR: PHY 3046 or C.I. A study of the postulates of quantum mechanics, the Schrödinger equation, and an introduction to the statistics of many particle systems.

PHY 4803L

POS 2041
American National Government: A study of the dynamics of American national government, including its structure, organization, powers, and procedures.

POS 3122

POS 3173
Southern Politics: PR: POS 2041 or C.I. Study of southern politics past and present. Emphasis on factors effecting changes in the region and the states. Southern and national relationship examined.
American Constitutional Law: PR: POS 2041 or C.I. Development of American federalism and national power, commerce clause and nationalization of the economy.

POS 4804
American Constitutional Law II: PR: POS 2041 or C.I. Development of civil liberties and civil rights in the American federal system.

POS 4941
Political Science Internship: PR: C.I. Internship working with National, State, County or Municipal government. Assignments with selected civic organization, elected or appointed official.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POS 6045</td>
<td>Seminar in American National Politics</td>
<td>AS 3(3,0)</td>
<td>Examines the operation of U.S. national political institutions by focusing on elements of the system, such as judicial process or interactions between branches of government.</td>
</tr>
<tr>
<td>POS 6127</td>
<td>Issues in State Public Policy: PR: C.I.</td>
<td>AS 3(3,0)</td>
<td>Analysis of policy issues occurring in the American states with attention given to single state and comparative studies.</td>
</tr>
<tr>
<td>POS 6157</td>
<td>Issues in Urban Public Policy: PR: C.I.</td>
<td>AS 3(3,0)</td>
<td>Study of characteristic policy issues which arise in urban political systems, and of various public responses to those issues.</td>
</tr>
<tr>
<td>POS 6197</td>
<td>Seminar in Subnational Politics:</td>
<td>AS 3(3,0)</td>
<td>Analysis of institutions, processes, and interrelationships of governmental units below the national level, with examination of factors contributing to conflict and cooperation among subnational units.</td>
</tr>
<tr>
<td>POS 6207</td>
<td>Seminar in Political Behavior:</td>
<td>AS 3(3,0)</td>
<td>A review of theory and findings in regard to mass political behavior, including participation, attitudes, communication, and electoral behavior.</td>
</tr>
<tr>
<td>POS 6237</td>
<td>Public Opinion and Policy Formation: PR: C.I.</td>
<td>AS 3(3,0)</td>
<td>A substantive and theoretical approach to understanding relationships between public opinion and public policy, including opinion/linkage models as well as opinion measurement.</td>
</tr>
<tr>
<td>POS 6734</td>
<td>Research Methods:</td>
<td>AS 3(3,0)</td>
<td>Methods of research design and execution, including both conceptualization and data gathering.</td>
</tr>
<tr>
<td>POS 6746</td>
<td>Quantitative Methods:</td>
<td>AS 3(3,0)</td>
<td>PR: POS 6734 or C.I. Applications and analysis of problems in the use of statistical data. Emphasis on methods of analysis.</td>
</tr>
<tr>
<td>POT 3302</td>
<td>Modern Political Ideologies:</td>
<td>AS 4(4,0)</td>
<td>A study of modern ideologies since the French Revolution including liberalism, conservatism, capitalism, nationalism, Fascism and anarchism.</td>
</tr>
<tr>
<td>POT 4003</td>
<td>Political Theory:</td>
<td>AS 4(4,0)</td>
<td>PR: POS 2041 or C.I. Examination of various normative approaches to the study of political science, stressing contemporary developments in the field.</td>
</tr>
<tr>
<td>POT 4045</td>
<td>Ancient, Medieval and Early Modern Political Philosophy:</td>
<td>AS 4(4,0)</td>
<td>Study of the development of political and social ideas in western thought from early Greece through the 17th century.</td>
</tr>
<tr>
<td>POT 4054</td>
<td>Modern Political Philosophy:</td>
<td>AS 4(4,0)</td>
<td>Study of the development of political and social ideas from the 18th century to the present. May be taken independently of POT 4045 (Ancient, Medieval and Early Modern Political Philosophy).</td>
</tr>
<tr>
<td>POT 4314</td>
<td>Contemporary Democratic Theory:</td>
<td>AS 4(4,0)</td>
<td>PR: POS 2041 or C.I. Study of democratic theories emphasizing liberal democracy and its critics, elitist theories, participatory democracy, citizen participation and relevance of empirical research to democratic theory.</td>
</tr>
<tr>
<td>POT 5007</td>
<td>Seminar in Political Theory:</td>
<td>AS 3(3,0)</td>
<td>An examination of analytic and normative theories of politics and society, using selected topics as a substantive focus.</td>
</tr>
<tr>
<td>PPE 3003</td>
<td>Personality Theory:</td>
<td>AS 3(3,0)</td>
<td>PR: PSY 2013. A survey of theory and research on the development of personality characteristics.</td>
</tr>
<tr>
<td>PSB 3002</td>
<td>Physiological Psychology:</td>
<td>AS 4(4,0)</td>
<td>PR: PSY 2013. A survey of the physiological basis of behavior emphasizing the relationship between the nervous systems and behavior. Lecture and demonstration/lab.</td>
</tr>
<tr>
<td>PSB 3442</td>
<td>Drugs and Behavior:</td>
<td>AS 3(3,0)</td>
<td>PR: PSY 2013. Effects of certain drugs upon the nervous system, behavior, and society. Causes of drug abuse and impact on mental health.</td>
</tr>
</tbody>
</table>
PSB 4103C


PSY 6446

Advanced Abnormal and Clinical Psychopharmacology: PR: Graduate admission, and C.I. Diagnosis of psychopathology & drug treatment of these disorders. Examination of the efficacy of psychoactive drugs.

PSC 1512

Physical Science: Familiarization with the basic laws governing our universe and man's physical environment.

PSY 2013

General Psychology: An introductory survey of the basic principles, theories, and methods of contemporary psychology.

PSY 2023

Careers In Psychology: PR: PSY 2013. An examination of various career opportunities in Psychology including educational entry requirements, and related professional issues.

PSY 3204

Statistical Methods in Psychology: PR: PSY 2013 and PSY 3204. Standard scores, confidence intervals, sampling distributions, hypothesis testing, correlation and regression as applied to research in psychology.

PSY 3214


PSY 3302


PSY 3624

Parapsychology: PR: PSY 2013. An examination of the history and development of research on paranormal phenomena with special emphasis on recent developments in extra sensory perception and psychokinesis.

PSY 3951

Undergraduate Field Work: PR: C.I. Placement in a community agency for supervised experience in applications of psychology to community problems.

PSY 4604

History and Systems of Psychology: PR: EXP 3404 and PPE 3003. Historical development of psychology with emphasis on classical theoretical positions.

PSY 6216

Advanced Research Methodology I: PR: Graduate admission and C.I. Procedures of psychological research and evaluation; application of experimental and non-experimental techniques in analyzing psychological variables; review of relevant psychological research.

PSY 6217

Advanced Research Methodology II: PR: PSY 6216. Structure and planning of complex psychological research studies; internal and external validity; application of advanced experimental and non-experimental procedures in analyzing psychological variables review of relevant psychological research.

PSY 6308

Psychological Testing I: PR: Graduate admission and C.I. Theory of test construction including test reliability and validity.

PSY 6318

Applied Testing and Selection: PR: Graduate admission and C.I. and PSY 6308. Issues in selecting employees and an examination of currently used tests in industry.

PSY 6946


PUP 3314

Minorities in American Politics: Historical and contemporary role of minority groups in the American political process, including an examination of their electoral significance and relevant legislative, executive, and judicial policies.

PUP 4003

American Public Policy: PR: POS 2041 or C.I. Policy formation, implementation and evaluation with a focus upon contemporary American problems, including the malapportionment of societal power and social conflict.

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PUP 4009 AS 4(4,0)  
*Topics in Public Policy:* Intensive analysis of a current policy problem. Sample topics include education, growth management, housing, affirmative action, welfare, and transportation. May be repeated once.

PUP 4323 AS 4(4,0)  
*Women and Politics:* An examination of demands for change in the social, political and economic status of women and the policy response of the system.

PUP 4503 AS 4(4,0)  
*Government & Science:* PR: C.I. Examination of interface between science and government. Focus is upon governmental support for science, social accountability, and role of the scientist-policy maker in comparative context.

PUP 4602 AS 4(4,0)  
*Politics of Health:* PR: C.I. Analysis of public health policies. Primary focus upon political processes, policy makers, interest group interventions including consumers, and policy outcomes. Comparative health policies.

PUP 6004 AS 3(3,0)  
*The Environment of Policy Making:* PR: C.I. Consideration of the impact of the intra-systematic and extra-systematic environment upon the decision making process.

PUP 6007 AS 3(3,0)  
*Public Policy and Political Analysis:* PR: C.I. An analysis of governmental action and models useful in policy analysis, stressing the pressures and procedures in decision making in a dynamic federal system.

PUP 6057 AS 3(3,0)  
*Issues in National Public Policy:* PR: C.I. Study of the establishment and evaluation of selected national issues and priorities, means of implementation, and impacts of government programs.

PUP 6058 AS 3(3,0)  
*Issues in International Public Policy:* PR: C.I. Analysis of domestic and foreign inputs influencing foreign policy formulation and execution, with extended analysis devoted to executive structures and decision making behavior.

PUR 4000 AS 3(3,0)  
*Public Relations:* Principles and practice of Public Relations including: techniques, research, tools, publicity and management.

PUR 6401 AS 3(3,0)  
*Governmental Public Relations:* PR: C.I. Emphasis study of campaign planning, image and public affairs activities of political aspirants and executive governmental offices at the city, county, state and federal levels.

RED 3012 ED 3(3,0)  
*Basic Foundations of Reading:* PR: Junior Standing or C.I. Introduction to reading: principles, procedures, and current practices. Study of specific techniques and materials for word attack and comprehension.

RED 4519 ED 3(3,1)  
*Diagnostic and Corrective Reading Strategies:* PR: RED 3012 or C.I. An investigation of the needs of individual learners in reading instruction. Organization and techniques for promoting optimum reading growth. Concurrent school experiences required.

RED 5147 ED 3(3,0)  
*Developmental Reading:* PR: Regular Certificate or C.I. Principles, procedures, organization, and current practices in the elementary reading program. Materials and methods of instruction.

RED 5514 ED 3(3,1)  
*Classroom Diagnosis and Treatment of Reading Difficulties:* PR: RED 5147 or equivalent. Classroom diagnosis and corrective teaching in reading; instructional materials.

RED 6116 ED 3(3,0)  
*Trends in Reading Education:* PR: Regular Certificate or C.I. Analysis of historical development and current trends; management systems, instructional strategies and investigation of research.

RED 6335 ED 3(3,0)  
*Reading in the Content Areas:* PR: Regular 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.

RED 6515 ED 2-6(1,2-6)  
*Remedial Reading Practicum:* PR: RED 5514 or equivalent. A remedial reading practicum for classroom teachers and those preparing to become special reading teachers. Emphasis on diagnostic reading tests and corrective materials and strategies.

RED 6746 ED 3(3,0)  
*Management of Reading Programs:* Overview of K-12 reading instructional goals and program management models; role of reading supervisor and inservice needs assessment and delivery.
RED 6845  ED 3(3,0)
Clinical Diagnosis and Remediation of Reading Difficulties: PR: RED 5514 or C.I. Administration and interpretation of individual tests; factors contributing to reading difficulties; case studies; instructional techniques for the severely disabled reader.

RED 6846  ED 2-3(0,2-3)
Clinical Reading Practicum: PR: RED 6515 and RED 6845 or C.I. Clinical evaluation and remediation of severely disabled readers in a laboratory setting. Parent interviews; case reports. For those students interested in becoming reading specialists.

REE 3040  BA 3(3,0)
Fundamentals of Real Estate: PR: Junior standing. Emphasis placed upon the application of basic tools of economics, finance and marketing to solve private and public sector real estate problems.

REE 4100  BA 3(3,0)
Real Estate Investment Analysis: PR: REE 3040. Focus on real estate decision making in the private sector utilizing tools of financial and economic analysis.

REE 6046  BA 3(3,0)
Real Estate Analysis: PR: Acceptance into the graduate program and FIN 5405 or equivalents. This course melds theory and practice towards the objective of solving urban land allocation problems faced by public and private sector decision-makers.

REL 2203  AS 4(4,0)
The Hebrew and Christian Heritage: The Old and New Testaments as religious documents; their socio-political context in the Ancient Near East.

REL 2302  AS 3(3,0)
World Religions: Basic features and historical background of Confucianism, Taoism, Hinduism, Buddhism, Judaism, Christianity and Islam.

REL 3314  AS 3(3,0)
Religions of China and Japan: A study of basic concepts in Shinto, Taoism, Confucianism, Buddhism, and Zen.

REL 3342  AS 3(3,0)
Hinduism: A study of Hindu religious ideas and scriptures; the Vedas, the Upanishads, the Bhagvat Gita, and later works.

REL 3353  AS 3(3,0)
Islam: An inquiry into the foundations and development of Islamic thought from earliest times to modern in various parts of the world.

REL 3432  AS 3(3,0)
The Prophets: Ancient and Modern: Ancient prophets (e.g. Moses, Buddha, Jesus, Mohammed) as originators of new faiths, the role of men like Ghandi and Mao as prophets in the modern world.

REL 3506  AS 3(3,0)
Studies in Christianity: An inquiry into the foundations and development of Christian thought in various parts of the world.

REL 3600  AS 3(3,0)
Studies in Judaism: An inquiry into the foundations and development of Jewish thought in various parts of the world.

REL 4182  AS 3(3,0)
Mysticism: The models and aims of the mystic, both Eastern and Western, as seen in art, music, and literature.

REL 4184  AS 4(4,0)
Mythology: An examination and interpretation of myths dealing with gods, divine heroes, and sacred events.

REL 4420  AS 3(3,0)
Modern Theology: Explores the revolution in religious thought prompted by Kierkegaard, Tillich, Barth, Niebuhr, and Bonhoeffer, and the secular trends suggested by Nietzsche, Altizer, Cox, and Hamilton.

RET 3026C  HLTH 4(3,3)
Introduction to Respiratory Therapy: PR: Admission to the professional upper division Respiratory Therapy Program. Fundamental respiratory therapy principles and practices will be studied. Introduction to the profession and basic methods are covered. Lecture and lab.

RET 3264C  HLTH 2(1,3)
Life Support Systems: PR: RET 3026C. Lecture-laboratory, measures utilized to support the critically ill patient, intubation, airway maintenance, arterial line insertion and care, post operative care are all covered.

RET 3264C  HLTH 3(2,3)
Mechanical Ventilation: PR: RET 3026C. Function and use of mechanical ventilators, patient evaluation methods. All forms of ventilatory support will be studied. Lecture—Laboratory.

Respiratory Disease Assessment: PR: RET 3026C. Physical examination of the chest, demonstrating equipment use, methods and theory. Chest radiography will be extensively covered. Lecture-demonstration.


Clinical Practice II: PR: C.I. Patient care with advanced respiratory equipment. Tracheostomy care. Introduction to cardiopulmonary resuscitation. Introduction to critical care units.


Pulmonary Function Studies: PR: RET 3026C, RET 3483. Detailed procedures and tests to provide information for diagnosis of pulmonary disease, lecture-laboratory.


Clinical Practice III: PR: RET 3875. Advanced life support techniques and equipment. Care of patients with more complex diseases.


Selected Topics in Respiratory Therapy: Current topics of adult critical care, as they apply to the advanced study of respiratory therapy.

Chest Medicine: PR: APB 3263. Disease states treated medically in conjunction with one or more modalities of respiratory therapy.

Principles of Risk and Insurance: PR: Junior standing or C.I. Emphasis is on insurance as a risk handling device, with attention given to risk assumption, risk avoidance and loss prevention also.

Risk Management: PR: Acceptance into the graduate program and FIN 5405 or equivalents. An introduction to risk management with emphasis on the business firm, but also treating several major risk management issues in the public sector.


Pathophysiology: PR: C.I. The study of radiologic science in the diagnosis and treatment of disease.

Medical Physics: PR: RTE 3684 or C.I. The clinical application of physics in radiation medicine; detection, measurements, techniques and equipment, radiation protection and safety; state and federal regulations; radiation biology.
RTE 3412C  
Principles of Radiographic Exposure I: PR: Admission to the professional phase of the RTE program or C.I. The principles controlling the production of an optimum radiograph.

RTE 3457C  
Principles of Radiographic Exposure II: PR: RTE 3412C or C.I. Continuation of RTE 3212C with emphasis on exposure technique, evaluation and use of imaging accessories, processing techniques.

RTE 3528C  
Radiographic Procedures I: PR: Admission to the professional phase of the RAS program or C.I. A study of patient positioning, equipment manipulation and quality evaluation of radiographic studies of the appendicular skeleton, chest, and abdomen.

RTE 3549  
Radiographic Procedures II: PR: RTE 3528 or C.I. A study of patient positioning, equipment manipulation and quality of radiographic studies of the organ systems, skull and facial bones, contrast studies.

RTE 3684C  
Physics of Image Production: PR: College Physics II. Physics of radiation including production, interaction of radiation with matter, imaging modalities and image production.

RTE 3806  
Clinical Education II: PR: RTE 3831 or C.I. Supervised clinical practice in radiographic procedures, radiation protection, patient care, equipment orientation, radiographic technic, darkroom procedures, and film quality evaluation.

RTE 3816  
Clinical Education III: PR: RTE 3806 or C.I. Supervised clinical practice in performing radiographic procedures with emphasis on competency evaluation of routine radiographic examinations.

RTE 3826  
Clinical Education IV: PR: RTE 3816 or C.I. Supervised clinical practice in radiographic procedures; competency evaluation of routine radiographic examinations.

RTE 3831  
Clinical Education Orientation: PR: Admission to the professional phase of the RTE program or C.I. Orientation to patient care, introduction to areas involving the field of radiology and clinical orientation to the function of radiologic technologists. Chest, abdomen, radiography.

RTE 4205C  
Quality Assurance Management: PR: RTE 4569 or C.I. A study of radiological equipment and imaging modalities for specialization, selection and installation of equipment designed for specific functions, quality assurance testing.

RTE 4207  
Quantitative Methods in Radiology Management: PR: ACC 2324 or C.I. Concepts of radiology department management emphasizing financing, budgeting, medical records; billing; leasing purchasing of equipment; inventory; data storage and retrieval systems; determination of data effectiveness.

RTE 4209  
Radiological Administrative Practice: PR: MAN 3310 or C.I. Administration of radiology departments; operation standards, personnel management; facility planning; economic feasibility; community hospital board administration-professional interrelationships; regulatory agencies; medical legal aspects.

RTE 4253  
Curriculum Planning in Radiologic Technology: PR: EVT 4066 or C.I. A study of curriculum design and approval process for hospital based and college based radiologic programs, including the self-study development.

RTE 4256  
Analysis of Instruction in Radiologic Technology: PR: EVT 4066 or C.I. Development of teaching aids, audio visuals, learning packets. Course development; questioning strategies, evaluation of didactic/clinical activities; design of continuing and inservice education programs.

RTE 4258L  
Directed Study in Clinical Education: PR: 4256 or C.I. Directed activity in classroom instruction in radiologic technology.

RTE 4589  
Imaging in Diagnostic Radiography: PR: RTE 3387 or C.I. Quality assurance programs with evaluation of radiographic imaging modalities and information retrieval systems. Tube output evaluation, sensitometry, and flow studies.

RTE 4843  
Clinical Education V: PR: RTE 4876 or C.I. Advanced clinical practice in diagnostic radiography, radiation therapy, nuclear medicine, special procedures, and other diagnostic imaging.

RTE 4876  
Clinical Education V: PR: C.I. Supervised clinical practice; emphasis on competency evaluation of routine radiographic examinations.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTV 3000</td>
<td>Foundations of Broadcasting: Nature of the media, the mechanics of operation, history, economics, programming, and internal and external control.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>RTV 3200</td>
<td>Broadcast Techniques: PR: RTV 3000. Introduction to the radio and television studio. Utilization of studio operating techniques and equipment (consoles, recorders, cameras, etc.) for use in educational and commercial broadcasting. Lab TBA.</td>
<td>AS 4(1,3)</td>
</tr>
<tr>
<td>RTV 3210</td>
<td>Radio Production: PR: RTV 3200 or C.I. The production of music (live and recorded), talk, interview, discussion, sports, and documentary including performance (talent and announcing) and direction.</td>
<td>AS 4(1,3)</td>
</tr>
<tr>
<td>RTV 3220</td>
<td>Television Production: PR: RTV 3200 or C.I. Emphasis on the coordination of talent, visuals, audio and lighting with the dramatic values of the presentation.</td>
<td>AS 4(1,3)</td>
</tr>
<tr>
<td>RTV 3231</td>
<td>Broadcast Announcing and Performance: PR: RTV 3200 or C.I. A study of communication problems on camera and microphone. Development of performance skills in announcing, interviewing, narrating, and reporting. Lab TBA.</td>
<td>AS 4(1,3)</td>
</tr>
<tr>
<td>RTV 3300</td>
<td>Broadcast Journalism: PR: English proficiency examination. Historical, legal, and quasi-legal influences on broadcast news; introduction to news sources, writing and interviewing techniques for radio-television news.</td>
<td>AS 5(2,3)</td>
</tr>
<tr>
<td>RTV 3501</td>
<td>Broadcast Continuity and Programming: PR: English proficiency examination. Preparation of written commercial copy for radio and television. Examination of program practices and traffic systems.</td>
<td>AS 4(2,2)</td>
</tr>
<tr>
<td>RTV 4200</td>
<td>Television Directing: PR: RTV 3220. Preparation and direction of programs with emphasis on dramatic values of composition. Typing skills required.</td>
<td>AS 4(1,3)</td>
</tr>
<tr>
<td>RTV 4402</td>
<td>Broadcast Criticism: PR: RTV 3000 for RTV majors; English proficiency examination. Evaluation and criticism of past and present radio and television programs, policies, and critics. Concentration on the problem of criteria development.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>RTV 4403</td>
<td>Radio, Television and Society: PR: RTV 3000 for RTV majors. A study of the impact of electronic media upon the habits, customs and thinking of our times. Considerations of internal media problems.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>RTV 4404</td>
<td>International Broadcasting: Comparative analysis of national broadcast systems. World broadcasting as a social, political and economic force.</td>
<td>AS 4(3,1)</td>
</tr>
<tr>
<td>RTV 4600</td>
<td>Non-Commercial Broadcasting: The uses of the electronic mass media for the dissemination of non-commercial programming. Public broadcasting and educational uses of the media.</td>
<td>AS 4(1,3)</td>
</tr>
<tr>
<td>RTV 4700</td>
<td>Regulation of Broadcasting: PR: RTV 3000. Federal, state, local and self-regulatory agencies and practices which govern electronic media.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>RTV 4800</td>
<td>Broadcast Management: PR: RTV 4700. Consideration of broadcast management problems in station operations at the local, regional, and national levels.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>RTV 6306</td>
<td>Problems in Broadcast Journalism: PR: C.I. Analysis of electronic journalistic policies, sources and control of information.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>RUS 1100</td>
<td>Elementary Russian Language and Civilization: Designed to initiate the student to the major language skills: listening, speaking, reading, and writing.</td>
<td>AS 3(3,1)</td>
</tr>
<tr>
<td>RUS 1101</td>
<td>Elementary Russian Language and Civilization: PR: RUS 1100 or equivalent. Continuation of RUS 1100.</td>
<td>AS 3(3,1)</td>
</tr>
<tr>
<td>RUS 2230</td>
<td>Intermediate Russian Language and Civilization: PR: RUS 1101 or equivalent. Designed to continue development of language skills at the intermediate level, together with a review of grammar, idiomatic expressions, extensive reading, and study of Russian culture.</td>
<td>AS 3(3,1)</td>
</tr>
<tr>
<td>RUS 2231</td>
<td>Intermediate Russian Language and Civilization: PR: RUS 2230 or equivalent. Continuation of RUS 2230 with emphasis on Russian civilization.</td>
<td>AS 3(3,1)</td>
</tr>
<tr>
<td>RUS 2210</td>
<td>Intensive Russian Conversation: PR: One year of Russian or equivalent. Practical use of the language leading toward fluency and correctness in speaking.</td>
<td>AS 3(3,0)</td>
</tr>
</tbody>
</table>
RUS 3240 Russian Conversation: PR: RUS 2231 or equivalent. Development of skills in conversation and comprehension through practice. This course may be repeated for credit. When repeated, credit will apply to general electives only.

RUS 3420 Russian Composition: PR: RUS 2231 or equivalent. Development of skills in composition. This course may be repeated for credit. When repeated, credit will apply to general electives only.

SCE 3310 Teaching Science in Elementary School: PR: Junior Standing or C.I. Selected concepts; organizing for instruction; techniques; evaluation procedures.

SCE 3330 Science Instructional Analysis: PR: EDG 4341 or C.I. Course objectives for a school curriculum and methods and materials.

SCE 5238 Inquiry in the Sciences: PR: Regular Certificate or C.I. Teaching science by inquiry in the secondary school and development of inquiry lessons.

SCE 6237 Science Programs in Secondary School: PR: Graduate standing or C.I. A survey of recent developments and programs in all areas of secondary school science.

SCE 6616 Trends in Elementary School Education: PR: Regular Certificate or C.I. Study of historical development and current trends; analysis of science curricula, materials.

SED 3335 Speech Instruction Analysis: PR: EDG 4341 or C.I. Study of instructional programs in speech; objectives, materials, techniques, organization for instruction, evaluation procedures, current research.

SED 4371 Directing Extracurricular Speech Activities: Debate, extemporaneous speech and other speech events; selection and training of contestants, interschool and intramural speech activities.

SED 5570 Speech Communication Instruction: PR: C.I. Communication models as teaching devices, design of communication curricula, instructional media with speech practicum and classroom criticism and evaluation.

SOC 2000 General Sociology: The basic principles, theories and methods of contemporary sociology.

SOC 3020 Social Problems: Analysis of major social problems such as mental disorders, sexual deviance, racial discrimination, poverty, community disorganization, and violence.

SOC 3110 Sociology of Deviant Behavior: An examination of the nature, types and societal reactions to deviant behavior; special emphasis on the process of stigmatization and the emergence of deviant subcultures.

SOC 3130 Juvenile Delinquency: Types of delinquency behavior found among juveniles; possible causes and ways society attempts to treat the various forms of delinquency.

SOC 3161 Sociology of Alcoholism: Introduction to the nature of alcoholism and review of its impact on society.

SOC 3201 Social Institutions: PR: SOC 2000. The application of general sociological principles, theories, and elements to the major social institutions of modern society.

SOC 3251 Sociology of Mental Illness: A sociological examination of mental illness as a social problem; legal aspects of mental illness, and the mental health professions.


SOC 3410 Social Stratification: PR: SOC 2000. Study of class, status and power, cultural variations in stratification systems; patterns of mobility and change.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 3500</td>
<td>Research Methods</td>
<td>PR: SOC 2000</td>
<td>Study of scientific method, problem formulation, data collection and interpretation, reporting and criticism.</td>
</tr>
<tr>
<td>SOC 3521</td>
<td>Research Methods and Statistics</td>
<td>PR: SOC 2000 and one other sociology course.</td>
<td></td>
</tr>
<tr>
<td>SOC 3600</td>
<td>Modern Sociological Thought</td>
<td>PR: SOC 2000.</td>
<td>A study of major European and American contributors to modern sociology since World War II.</td>
</tr>
<tr>
<td>SOC 3640</td>
<td>The Development of Social Thought</td>
<td>PR: SOC 2000.</td>
<td>An overview of theories concerning the nature of man as a &quot;social being.&quot; The nature of society from the beginnings of the scientific study of man's life to World War II.</td>
</tr>
<tr>
<td>SOC 3745</td>
<td>Race and Ethnic Minorities in the United States</td>
<td></td>
<td>Theoretical analysis of the emergence, maintenance and disruption of patterns of racial and ethnic stratification.</td>
</tr>
<tr>
<td>SOC 3834</td>
<td>Sex Roles in Modern Society</td>
<td></td>
<td>The traditional and changing roles of women and men viewed in a cross-cultural perspective.</td>
</tr>
<tr>
<td>SOC 3850</td>
<td>Collective Behavior</td>
<td>PR: SOC 2000.</td>
<td>Analysis of relatively unstructured social situations, mobs, crowds, etc.</td>
</tr>
<tr>
<td>SOC 3871</td>
<td>Modern Organizations</td>
<td></td>
<td>Study of structure of social organizations, especially work organizations. Organizational and motivation theories and the social psychology of leadership and decision making are addressed.</td>
</tr>
<tr>
<td>SOC 4160</td>
<td>Sociology of Drug Abuse</td>
<td></td>
<td>Analysis of the socio-culture elements of the drug culture.</td>
</tr>
<tr>
<td>SOC 4221</td>
<td>Political Sociology</td>
<td></td>
<td>Sociological analysis of political and parapolitical groups; socioeconomic variable of voting behavior, power elites; societies and systems of government.</td>
</tr>
<tr>
<td>SOC 4230</td>
<td>Medical Sociology</td>
<td></td>
<td>Analysis of patient beliefs and behavior, health practitioners, the social organization of hospitals and health services, contemporary problems in the delivery of health care.</td>
</tr>
<tr>
<td>SOC 4241</td>
<td>Sociology of Aging</td>
<td></td>
<td>Sociological aspects of aging in America.</td>
</tr>
<tr>
<td>SOC 4262</td>
<td>Sociology of Occupations and Professions</td>
<td></td>
<td>An examination of occupations and professions from the sociological perspective. Emphasized are professional and occupational socialization, marginality and choice as well as women and work.</td>
</tr>
<tr>
<td>SOC 4281</td>
<td>Sociology of Education</td>
<td>PR: SOC 2000.</td>
<td>This course examines the sociological dimensions of the educational institutions including the impact of the social structure on learning and the role of education in social change.</td>
</tr>
<tr>
<td>SOC 4334</td>
<td>Soviet Sociology</td>
<td></td>
<td>Analysis of relations of various Soviet institutions such as education, religion, and the Communist party to society; class structure and social problems.</td>
</tr>
<tr>
<td>SOC 4507</td>
<td>Data Analysis</td>
<td>PR: SOC 3500 and a statistic course.</td>
<td></td>
</tr>
<tr>
<td>SOC 4509</td>
<td>Social Research Practicum</td>
<td>PR: SOC 4507 and C.I.</td>
<td>Application of advanced research designs and data analysis techniques to assigned projects, with an emphasis on data management.</td>
</tr>
</tbody>
</table>
SOC 5937
Proseminar in Sociology: PR: Six hours of Sociology and graduate level status or C.I. Study of culture, groups, demography, stratification, and culture and personality.

SOC 6302
Community Development and Planned Change: PR: Graduate Status and C.I. The organization, structure and process of communities and neighborhoods. Strategies of directed change.

SOC 6426
Complex Organizations: PR: SOC 6486 and C.I. Study of social interaction, power, and mobility within complex social organizations.

SOC 6481
Social Systems Analysis and Evaluation: PR: Graduate Status, SOC 6480, and C.I. Examination, analysis and evaluation of goals, objectives and change in social systems.

SOC 6486
Principles of Applied Sociology: PR: Graduate Status and C.I. Introduction to methods and theories of applied sociology.

SOC 6487
Program Design and Development: PR: SOC 6481 and C.I. Techniques of system needs assessment, determination of system design requirements, techniques of establishing standards for desired output, and implementation of program objectives and goals.

SOC 6501
Social Research: PR: Graduate Status and C.I. Research methodology, including problem conceptualization, research proposals, data collection and analysis, and presentation of findings.

SOC 6510
Research Analysis: PR: Undergraduate Statistics, Graduate Status and C.I. Development of various research designs to analyze and interpret existing data from organizations in the community.

SOC 6515
Advanced Social Research: PR: SOC 6501, SOC 6510, and C.I. Advanced methods of social research in applied sociology.

SOC 6585
Grant Writing: PR: SOC 6486, SOC 6501, and C.I. Identification of funding sources, formats, and community response and background information in the development and management of grant applications.

SOC 6825
Group Dynamics: PR: SOC 6486, Graduate Status, and C.I. Examination of social processes in small groups; dynamics of interaction and network analysis.

SOC 6872
Human Relations in the Applied Setting: PR: Graduate Status and C.I. An analysis of the problems of ethnic, economic, and minority groups in social settings.

SOP 3004

SOP 3706
Television and Behavior: The influence of television viewing on such behaviors as scholastic achievement, aggression, prosocial behavior, sex-role and racial stereotypes, and consumer behavior.

SOP 3724
The Psychology of Racial Prejudice: Examination of literature relating to prejudice toward ethnic groups; effects of racism on individuals, development and maintenance of prejudice, and possible ways to reduce prejudice.

SOP 3742
Psychology of Women: Examination of the psychological impact of changing sex roles on women in modern society. Topics include childrearing, working women, sex differences in personality and cognition.

SOP 3772
Sexual Behavior: Physiological, social, and clinical aspects of human sexuality.

SOW 3104
Human Growth and Development: Development of social work skills in assessing an individual's biological, psychological and social development from birth to death, recognizing influences of culture and other environmental factors.

SOW 3110
Assessing Individual Behavior: The development of social work skills in assessing individual functioning at various life stages from major theoretical perspectives.

SOW 3191
Assessing Human Systems: Development of skills in assessing families, groups, organizations and communities and their impact on human functioning and their potential for providing social support.
SOW 3203 Social Welfare: A Social Institution: Study of social welfare policies, programs and services, including socio-cultural, political, economic and historical forces affecting changes in societal responses to human needs. Oriented to non-majors.


SOW 3232 Introduction to Social Welfare and Social Work: Study of social welfare as an institution and social work as a profession and factors which influence their development as societal resource systems. Oriented to majors.

SOW 3302 Generalist Practice in Social Work: Study of social work values, systems perspective, problem solving approach, generalist functions, and the use of a generalist model of practice.

SOW 4300 Micro-Level Roles and Interventions in Social Work: PR: SOW 4300, SOW 4352. Study and simulated practice of roles and tasks in systemic problem solving with individuals, families, and supportive and remedial groups.

SOW 4343 Macro-Level Roles and Interventions in Social Work: PR: SOW 4300, SOW 4352. Study and simulated practice of roles and tasks in systemic problem solving to obtain and improve social welfare resources within organizations and communities.

SOW 4343 Interpersonal Skills in Social Work Practice: PR: SOW 4300. Simulated practice of interviewing, group leadership, written communication, and oral presentations, in consensual as well as conflictual contexts of social work.

SOW 4352 Agency Management: PR: SOW 3302 or SOW 3203. Basic administrative practice including planning, staffing, delegating, managing and developing personnel, monitoring services, budgeting and fund raising.

SOW 4352 Evaluating Social Work Practice and Service Programs: PR: SOC 3502, SOW 4300. Skill development in (1) documenting unmet client needs, (2) aggregating data for assessing interventive outcomes, (3) evaluating programs and (4) analyzing research practice linkages.

SOW 4510 Field Education: PR: Completion of required courses in major: CR: SOW 4522. Supervised learning experiences in agencies which relate social work practice to theory, involving 400 clock hours in the field.

SOW 4522 Field Education Seminar: PR: Completion of required courses in major: CR: SOW 4510. Weekly seminar to examine the field experience and to relate theory with practice situations.

SOW 4820 Social Work with Minorities: PR: SOW 4341, SOW 4343, or C.I. Study of oppressed groups and relevant social work interventions; skill development in work with, and in behalf of, people of minority groups.

SPA 2112 Basic Phonetics: Physiological descriptions and visual notation of speech patterns and regional dialects.

SPA 3001 Introduction to Communicative Disorders: Etiology, symptoms, and methods of diagnosing and treating communicative disorders. For beginning and prospective majors in Communicative Disorders.


SPA 3052 Clinical Observation and Practice: PR: SPA 3550 C.I. Observation and supervised participation in speech pathology and audiology in the university clinic and local clinics.

SPA 3101 Physiological Bases of Speech and Hearing: PR: SPA 3001. An introduction to the anatomical physiological, and physical elements underlying the communication process.

SPA 4030
Basic Audiology: Introduction to physics of sound, anatomy of hearing mechanism, pure tone audiometry, hearing aids, problems of the hearing handicapped. Clinical skills development will be required.

SPA 4130
Basic Instrumentation for Communicative Disorders: PR: C.I. Calibration and instrumentation for communicative sciences. Basics of circuitry as well as operation and minor repairs of audiological and speech pathology.

SPA 4201
Communicative Disorders: Articulation: PR: SPA 2112, 3001, 3101, 3550, 4030, LIN 3710. Survey of articulation disorders and their management. Clinical skills development will be required.

SPA 4210

SPA 4222
Communicative Disorders: Stuttering: PR: SPA 2112, 3001, 3101, 3550, 4030, LIN 3710. Survey of rhythm disorders and their management. Clinical skills development will be required.

SPA 4250

SPA 4323

SPA 4402

SPA 4452
Differential Diagnosis in Communicative Disorders: PR: SPA 2112, 3001, 3101, 3550, 4030, LIN 3710. Lectures, readings, observations and participation in the evaluative procedures concerned with speech and language skills of the handicapped. Clinical skills development required.

SPA 4941
Practicum In Communicative Disorders

SPA 5005
Survey of Communicative Disorders: A survey of speech, language, and hearing disorders for habilitative personnel and other interested professionals.

SPA 5305
Auditory Problems of Infants and Children: PR: C.I. Development of sensory perception, auditory deprivation tests, and testing techniques with the neonate, infant, and young child.

SPA 5307
Audiology: PR: C.I. Advanced techniques in pure-tone speech, and automatic audiometry, with emphasis on interpretation of audiograms and differential diagnosis. Practice required.

SPA 5324
Hearing Conservation: PR: C.I. Information regarding the prevention of hearing loss and the establishing of hearing conservation programs.

SPA 5354
Communicative Disorders Programs for the Public Schools: PR: C.I. Methods and techniques for the public school clinician; including organization of public school programs. Observations required.

SPA 6204
Advanced Studies in Communicative Disorders: Articulation: Specific diagnostic techniques and therapeutic procedures for articulation disorders, muscular dysfunction disorders including dysarthria, apraxia, cleft palate and cerebral palsy.

SPA 6214
Speech of the Laryngectomee: PR: C.I. Basic principles and practice for developing and improving the speech of the laryngectomee.

SPA 6345
Auditory Amplification: Physical characteristics and clinical aspects of auditory amplifiers for the hearing handicapped. Clinical observations required.

SPA 6534

SPA 6410
Communicative Disorders: Language Problems in Adults: A student of language disorders in adults associated with stroke, aging, & systemic disease. Students will develop skills in adult language behavior.
SPA 6505
Clinical Practice in Language and Speech Pathology: PR: C.I. Advanced clinical practice in diagnosis and treatment of communicative disorders. May be repeated with change of content, not to exceed a total of 15 hours.

SPC 1005
Speech Improvement Laboratory: Individual and group practice for students with speech fright and delivery problems and for foreign students who need practice in oral English.

SPC 1014
Fundamentals of Oral Communication: Use of the body and voice; participation in various speaking situations; planning, organizing, and delivering public speeches.

SPC 3050
Voice and Articulation: An introduction for non-majors to the anatomy of voice and speech production. Analysis of voice and articulation of each student. Exercise for individual improvement.

SPC 3250
Speech and Human Relations: Introduction to semantics; symbols and meaning and the relationship with human behavior.

SPC 3301
Interpersonal Communication: Nature of the communication process; variables affecting the process and the individuals involved. Analysis of communication models, interactant behavior, situational cues, verbal and non-verbal messages.

SPC 3410
Parliamentary Procedures: Principles and rules governing participation and leadership in the conduct of formal business meetings.

SPC 3425
Group Interaction and Decision Making: A study of small group processes. Attention is given to problem solving, leadership emergence, conformity behavior, and group member role responsibilities.

SPC 3445
Leadership Through Oral Communication: A theoretical and practical investigation of leadership in oral communication situations, principles of parliamentary law, and approaches to problem solving.

SPC 3511
Argumentation and Debate: PR: SPC 1014 or C.I. Study and practice in the preparation and delivery of argumentative speeches emphasizing argument, evidence and organization.

SPC 3542
Persuasion: Motivation: PR: SPC 1014 or C.I. A study of motivational factors involved in persuasive speaking to secure belief and action.

SPC 3601
Advanced Public Speaking: PR: SPC 1014 or C.I. Advanced training in selecting and organizing materials for various types of speeches. Practice in thinking and speaking before audiences.

SPC 4330
Nonverbal Communication: Review of current behavioral research in such areas as proxemics, kinesics, physical characteristics, tactile communication and paralanguage. Lectures are supplemented by frequent nonverbal exercises.

SPC 4350
Studies in Listening: Analysis of current trends, professional literature, and resource materials bearing upon the teaching of listening. Practice in listening; preparing listening experiences; oral and written reports.

SPC 4440
Group Dynamics: A study of human behavior in group situations.

SPC 4540
Attitudes and Communication: PR: English proficiency examination. A survey of the immediate and direct ways in which persuasive communications and social groups come to influence attitudes.

SPC 4633
Rhetoric of Social and Political Action: PR: Junior Standing. A critical investigation of social and political speaking within contemporary American society including agitative rhetoric of political dissent.

SPC 5200
Evolution of Communication Theory: General Survey: Major communication trends from classical era to the present. Comparison of Aristotelian and non-Aristotelian rhetorics. Contributions to principal figures will be discussed.

SPC 6219
Modern Communication Theory: Comparative analysis of theories and models of human communication; behavioral systems, encoding and decoding processes, interaction variables, and social context.
SPC 6442
Small Group Communication: PR: C.I. A study of communication and its effect on small group behavior.

SPC 6545
Studies in Persuasion: Survey and evaluation of experimental research in persuasion.

SPN 1100
Elementary Spanish Language and Civilization: Designed to initiate the student to the major language skills: listening, speaking, reading, and writing.

SPN 1101
Elementary Spanish Language and Civilization: PR: SPN 1100 or equivalent. Continuation of SPN 1100.

SPN 2210
Intensive Spanish Conversation: PR: One year of Spanish or equivalent. Practical use of the language leading toward fluency and correctness in speaking.

SPN 2230
Intermediate Spanish Language and Civilization: PR: SPN 1101 or equivalent. Designed to continue development of language skills at the intermediate level.

SPN 2231
Intermediate Spanish Language and Civilization: PR: SPN 2230 or equivalent. Continuation of SPN 2230 with emphasis on Spanish civilization.

SPN 3240
Spanish Conversation: PR: SPN 2231 or equivalent. Development of skills in conversation and comprehension through practice. This course may be repeated for credit. When repeated, credit will apply to general electives only.

SPN 3420
Spanish Composition: PR: SPN 2231 or equivalent. Development of skills in composition. This course may be repeated for credit. When repeated, credit will apply to general electives only.

SPN 4410
Advanced Spanish Conversation: PR: SPN 3240. Advanced conversation on directed topics from various disciplines: Literature, art, psychology, philosophy, music, business and the sciences.

SPN 4421
Advanced Spanish Composition: PR: SPN 3420. Readings and written imitations of modern literary styles in the form of themes, sketches, poems and original stories.

SPN 4450
Stylistics: PR: SPN 3240 or equivalent. An intense study of textural criticism. An examination of the relationship between language and literature, explications and linguistic analysis of literary texts.

SPN 4510
Spanish Civilization and Culture: PR: SPN 3240 or SPN 3420. A study of Spanish civilization and culture from Pre-Roman times to the present. Conducted in Spanish.

SPN 4520
Latin American Civilization and Culture: PR: SPN 3240 or SPN 3420. An overview of the currents in Latin American culture and civilization from the Pre-Columbian period to the present. Conducted in Spanish.

SPS 6606
School Consultation Techniques: PR: C.I. Theories and models of school consultation and clinical practice in the consultative role.

SPS 6608

SPS 6936
Problems in School Psychology: PR: Graduate admission and C.I. An investigation of some of the major problems facing psychologists working in school systems.

SPS 6949
School Psychology Internship: PR: Graduate Admission, and C.I. Supervised placement in an appropriate school setting.

SPW 3100
Survey of Spanish Literature I: PR: SPN 2231 or equivalent. Main literary currents and works from the Middle Ages through the Nineteenth Century Romanticism.

SPW 3101
Survey of Spanish Literature II: PR: SPN 2231 or equivalent. Main literary currents and works of the Eighteenth and Nineteenth Centuries from Realism to the present.

SPW 3130
Survey of Latin-American Literature I: PR: SPN 2231 or equivalent. Main literary currents and works from the colonial period to the Nineteenth Century Romanticism.
SPW 3131 Survey of Latin-American Literature II: PR: SPN 2231 or equivalent. Main literary currents and works of the Nineteenth Century from the Realism to the present.

SPW 3370 Spanish Short Story: A study of representative 19th and 20th Century Spanish short stories and their authors.


SPW 4460 Nineteenth Century Spanish Literature: PR: SPW 3101. A study of the representative authors and works in Spanish Romanticism, Realism and Naturalism.

SPW 4480 Twentieth Century Spanish Literature: PR: SPW 3101. A study of the representative authors and works in drama and the novel.

SPW 4600 Cervantes I: PR: SPW 3101. Don Quixote (Part I).

SPW 4601 Cervantes II: PR: SPW 3101. Don Quixote (Part II).


SSE 3312 Teaching Social Science in the Elementary School: PR: Admission to Phase II or C.I. Selected themes, problems, and concepts; organizing for instruction; techniques; evaluation procedures.

SSE 3333 Social Science Instructional Analysis: PR: EDG 4341 or C.I. Study of instructional programs in Social Sciences; objectives; materials; techniques; organization of instruction; evaluation procedures; current research.

SSE 5334 Inquiry in the Social Studies: PR: Regular Certificate or C.I. Teaching by inquiry in the new social studies with a development of inquiry episodes.

SSE 5440 Law Education Studies Materials: PR: Senior standing or C.I. Design, organization and development of educational materials relating constitutional law concepts to citizenship education for schools.

SSE 6441 Florida Law Education Studies: PR: SSE 5440. Creative planning and evaluation of law education programs for schools in Florida.

SSE 6617 Trends in Elementary School Social Studies Education: PR: Regular Certificate or C.I. Historical development and current trends, strategies for inquiry instruction, intellectual, social, and personal dimensions of social studies.

SSE 6636 Contemporary Social Science Education: PR: Regular Certificate or C.I. A survey of recent developments and contemporary programs in all areas of the social sciences.

SSI 4155 Science Fiction and the Social Sciences: A multi-media examination of note-worthy science fiction from the Social Science perspective.


STA 3023 Fundamentals of Probability and Statistics: PR: Four years of high school mathematics or MAC 1104 or C.I. First methods course introducing probability and statistical inference including estimation, hypothesis testing, binomial and normal distributions, small samples.

STA 3032 Probability and Statistics for Engineers: PR: MAC 3313. Axioms of probability; combinatorial and geometrical probability; probability distributions; measures of location and dispersion; sampling and sampling distributions; estimation and tests of hypotheses; engineering applications.

STA 3564 Statistical Quality Control: PR: One course in statistics or C.I. Statistical concepts and methods applied to the control of quality of manufactured products.
STA 4102  AS 3(3,0)
Computer Processing of Statistical Data: PR: STA 4163 and knowledge of a programming language or C.I. Use of packages such as SAS, BMD, SPSS for data validation, description and analysis of data, regression and analysis of variance and covariance.

STA 4163  AS 3(3,0)
Statistical Methods I: PR: One course in statistics or C.I. Statistics in research includes methods of analyzing data, statistical concepts and models, estimation, tests hypotheses, regression and correlation, an introduction to analysis of variance and chi-square.

STA 4164  AS 3(3,0)
Statistical Methods II: PR: STA 4163 or C.I. A continuation of STA 4163 including further study of regression, analysis of variance and covariance and multiple comparisons.

STA 4202  AS 3(3,0)

STA 4222  AS 3(3,0)

STA 4321  AS 3(3,0)
Statistical Theory I: PR: MAC 3312 or C.I. Topics include sample spaces, probability axioms, distribution functions, sampling distributions, interval estimation and hypothesis testing.

STA 4322  AS 3(3,0)
Statistical Theory II: PR: STA 4321 or C.I. Continuation of STA 4321. Topics include the multivariate normal, regression and correlation, linear models, analysis of variance and distribution-free methods.

STA 4442  AS 3(3,0)
Probability Theory and Applications: PR: STA 4321 or C.I. Markov chains, recurrent events, sequences of random variables, random walk, and simple stochastic processes.

STA 4502  AS 3(3,0)
Nonparametric Statistical Methods: PR: STA 3023 or C.I. Statistical methods that do not require specification of a parametric distribution. Rank tests and tests for randomness and independence.

STA 5158  EN 4(4,0)
Probability and Statistics for Engineers: PR: STA 3023 or equivalent. Theory and applications of discrete and continuous random variables, hypothesis tests, confidence intervals, regression analysis and correlation.

STA 5206  AS 3(3,0)
Statistical Analysis: PR: A course in statistical methods and a course in mathematical statistics or C.I. This course relates the ideas of probability and statistics, including distribution theory, to the collection and analysis of data.

STA 5236  AS 3(3,0)
Regression Analysis: PR: MAS 3113, STA 4163 and STA 4163 or C.I. General linear model, Bonferroni joint estimation, model aptness and remedial measures, regression through the origin, independent and dependent indicator variables, multicollinearity.

STA 5447  AS 4(4,0)

STA 5707  AS 3(3,0)
Multivariate Statistical Methods: PR: STA 4163 or STA 4321 or C.I. Concepts of statistical relationships among several variables and methods for inference. Multivariate normal, Hotelling T², Multivariate analysis of variance, canonical correlation and principal components.

STA 5857  AS 3(3,0)

STA 6246  AS 3(3,0)
Linear Models: PR: STA 4322 and STA 4164 or C.I. Theoretical development of full rank linear statistical models, least squares and maximum likelihood estimation, internal estimation, hypothesis testing, introduction to less than full rank models.

STA 6354  AS 3(3,0)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STD 3151</td>
<td>Career Development Analysis</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>ED 3(3,0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUR 3101C</td>
<td>Surveying: PR: Junior Standing. Theory and field practice in surveying measurements, and the reduction and adjustment of field data.</td>
<td>3(2,3)</td>
</tr>
<tr>
<td>THE 1020</td>
<td>Theatre Survey: PR: None. An overview of the theatre arts.</td>
<td>2(1,3)</td>
</tr>
<tr>
<td>THE 2071</td>
<td>Cinema Survey: A broad cultural approach to cinema as theatre.</td>
<td>3(2,2)</td>
</tr>
<tr>
<td>THE 2925</td>
<td>Theatre Practicum I: Open to all students interested in participating in productions of University Theatre. May be repeated for credit. Primarily an activity course.</td>
<td>2(0,16)</td>
</tr>
<tr>
<td>THE 3112</td>
<td>Theatre History I: Development of theatre art from the earliest times through the seventeenth century.</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>THE 3113</td>
<td>Theatre History II: Development of theatre art from the seventeenth century to the twentieth century.</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>THE 3251</td>
<td>History of the Motion Picture: Development of the film industry; its social and economic impact. Major films and trends in context.</td>
<td>3(2,2)</td>
</tr>
<tr>
<td>THE 3260</td>
<td>Theatrical Costume History and Design: History and theory of theatrical costumes.</td>
<td>3(2,2)</td>
</tr>
<tr>
<td>THE 3312</td>
<td>Drama Development I: Study of dramatic literature from the Greek theatre through the seventeenth century.</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>THE 3313</td>
<td>Drama Development II: A study of dramatic literature from the 18th through 20th centuries. Continuation of THE 3312.</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>THE 3925</td>
<td>Theatre Practicum II: PR: THE 3925 and C.I. Primarily an activity course. Student will serve in some position of responsibility in production. May be repeated for credit.</td>
<td>2(0,16)</td>
</tr>
<tr>
<td>THE 4072</td>
<td>Principles of Motion Picture Art: PR: THE 3251 or C.I. Aesthetic consideration of the motion picture as art. May be repeated for credit.</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>THE 4073</td>
<td>Film Production: PR: C.I. Professional 16mm film production, scripting, production, sound, and editing of theatre department ensemble films. May be repeated twice.</td>
<td>3(2,2)</td>
</tr>
<tr>
<td>THE 4075</td>
<td>Modern Motion Picture Technique: PR: THE 3251 or C.I. An examination of the techniques of motion picture as art; directing, acting, editing, writing, cinematography.</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>THE 4200</td>
<td>Broadway and Regional Theatre Trends: An examination of the influences of the American drama and theatre. Trends in theatrical production and dramatic types.</td>
<td>3(2,2)</td>
</tr>
<tr>
<td>THE 4375</td>
<td>Contemporary Theatre and Drama: Trends in theatrical production and dramatic literature in Italy, France, Germany, Russia and the Scandinavian countries.</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>THE 4800</td>
<td>Children’s Theatre: An introduction to the bases of theatre production for young people. Production of children’s theatre, play selection, costumes, management, and touring.</td>
<td>3(2,2)</td>
</tr>
<tr>
<td>TPA 2082</td>
<td>Stage Properties: Design, construction, operation, and management of stage properties.</td>
<td>3(2,2)</td>
</tr>
<tr>
<td>TPA 2210</td>
<td>Technical Theatre Production: PR: THE 1020. History, theory, and practice of technical theatre production.</td>
<td>3(2,2)</td>
</tr>
<tr>
<td>TPA 3060</td>
<td>Scene Design I: PR: THE 1020, TPA 2210. Study of and practice of scene design; perspective drawing, fundamentals of design, and techniques of scene painting. (Service on crew as required).</td>
<td>3(2,2)</td>
</tr>
<tr>
<td>TPA 3220</td>
<td>Stage Lighting: PR: THE 1020 and 2210. Study of stage lighting techniques, practices, and equipment. (Service on light crew as required).</td>
<td>3(2,2)</td>
</tr>
<tr>
<td>TPA 3221</td>
<td>Lighting Design: PR: TPA 3220. Continuation of Stage Lighting with emphasis on theory, style and individual lighting design projects.</td>
<td>3(2,2)</td>
</tr>
</tbody>
</table>
TPA 3230  AS 3(2,2)  
**Theatrical Costume Construction and Technique:** A continuation of TPA 3260 in which emphasis is placed on design and construction, planning, and execution of costumes.

TPA 3250  AS 3(2,2)  
**Make-up Technique:** Analysis and design of stage make-up.

TPA 3400  AS 3(3,0)  
**Theatre Management:** Study of the development, organization, management, funding, and promotion of Theatre programs.

TPA 4061  AS 3(2,2)  
**Scene Design I:** PR: TPA 3060, 3220. A continuation of TPA 3060 in which the emphasis is placed on independent planning and execution of scene designs.

TPP 2110  AS 3(2,2)  
**Acting I:** Emphasis on movement, motivation, voice, characterizational techniques, makeup, and other basic requirements for acting.

TPP 3111  AS 3(2,2)  
**Acting II:** PR: TPP 2110 or C.I. Continuation of TPP 2110. May be repeated for credit.

TPP 3130  AS 3(2,2)  
**Classical Mime:** PR: TPP 2110 or C.I. Introduction to the art of mime with an emphasis on mask work and illusion.

TPP 3310  AS 3(2,2)  
**Directing I:** Fundamental principles of theatrical directing. Each student is required to direct short scenes for laboratory presentation and criticism.

TPP 3700  AS 3(2,2)  
**Stage Diction:** The role of the voice in the art of acting through practice in vocal characterization.

TPP 4112  AS 3(2,2)  
**Acting III:** PR: TPP 2110 or C.I. Concentration on scene study and preparation of audition material for advanced students.

TPP 4140  AS 3(2,2)  
**Performance Styles:** Instruction in modern and period styles of acting.

TPP 4311  AS 3(2,2)  
**Directing II:** PR: TPP 3310. Further theories and techniques of play direction, study of dramatic values, plot structure, style, mood, composition, and directing approach.

TTE 4004  EN 3(3,0)  
**Transportation Engineering:** PR: EGN 3613 and STA 3032. Investigation of all forms of transport—highway, rail, water, air. Systems approach to planning, design, construction, operation, and administration of transportation networks.

TTE 5204  EN 3(3,0)  
**Traffic Engineering:** PR: STA 3032. Study of operator and vehicle characteristics, and design for street capacity, signals, signs and markings.

TTE 5720  EN 3(3,0)  
**Geometric Designs of Transportation Systems:** PR: TTE 4004. Study of geometric and construction design elements in engineering of transportation systems.

TTE 6526  EN 3(3,0)  
**Planning and Design of Airports:** 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.

TTE 5620  EN 3(3,0)  
**Mass Transportation Systems:** PR: C.I. Planning, design, construction, operation and administration of mass transportation systems.

URP 4026  AS 4(4,0)  
**Community Planning and Development:** Contemporary planning concepts, roles of the planning practitioner, and the influence of the political, economic, and social environments on public and quasi-public agencies.

VIC 3000  AS 3(3,0)  
**Visual Communication:** A study of the visual system of man, and the influences of the visual media on modern society.

VIC 3001  AS 3(3,0)  
**Photo Communication:** Photography of a communication device; use of still camera; basic photographic technique. Open to all majors.

ZOO 1010C  AS 3(2,4)  
**General Zoology:** Introduction to zoology; structure, function and representative groups; current concepts in zoological sciences.
ZOO 1020 AS 2(2,0)
*Biology of Man:* An introduction to man as a member of the animal kingdom; his taxonomy, anatomy, growth, reproduction, development, heredity, evolution, behavior, diseases, and population growth.

ZOO 3303C AS 4(2,6)
*Vertebrate Zoology:* PR: 6 hours of zoology or C.I. Evolution and classification followed by an introduction to vertebrate ecology, natural history and behavior.

ZOO 3713C AS 5(3,8)
*Comparative Vertebrate Anatomy:* PR: ZOO 1010C. The vertebrate animals; relationship of organs and systems; and their phylogenetic significance.

ZOO 3733C AS 4(3,3)
*Human Anatomy:* PR: BSC 1010C or equivalent. Structure of the human body. Not open to students in ZOO 3713 or equivalent.

ZOO 3753C AS 4(2,6)
*Vertebrate Histology:* PR: ZOO 1010C. Anatomy, structure and function of major cell types and tissues.

ZOO 4203C AS 4(3,3)
*Invertebrate Zoology:* PR: 8 hours of biology or C.I. Taxonomy, anatomy and ecology of the invertebrate animals.

ZOO 4453C AS 4(2,6)
*Ichthyology:* PR: 6 hours of zoology or C.I. Introduction to the biology of the fishes, their classification, evolution and life histories.

ZOO 4603C AS 4(3,4)

ZOO 5483C AS 4(2,6)
*Herpetology:* PR: 6 hours of zoology or C.I. Introduction to the biology of the amphibians and reptiles, their classification, evolution and life histories.

ZOO 5475C AS 4(2,6)
*Ornithology:* PR: 6 hours of zoology or C.I. Introduction to the biology of birds, their classification, evolution and life histories.

ZOO 5483C AS 4(2,6)
*Mammalogy:* PR: 6 hours of zoology or C.I. Introduction to the biology of mammals, their classification, evolution and life histories.

ZOO 5815 AS 3(3,9)
*Zoogeography:* PR: 8 hours of zoology or C.I. Principles and concepts concerning regional patterns of animal distributions of the world, both past and present.
FACULTY

The date indicates the first year of employment at the University of Central Florida.

ABBOT, DAVID W., Professor of Psychology
(1968), B.A., M.S., Ph.D. (University of Massachusetts)

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(1969), B.S., M.S., Ed.D. (Ball State University)

TOLER, DONNA J., Assistant Professor of Education
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TOWLE, HERBERT C., Professor of Engineering
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TROFF, WALTER D., Assistant Professor of Sociology
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TUCKER, RICHARD D., Chairman, Department of Psychology and Associate Professor of Psychology
(1972), A.B., M.A., Ph.D. (Emory University)
UMPHREY, ROBERT E., Professor of English (1970), B.A., M.A., Ph.D. (University of Washington)

UNKOVIC, CHARLES M., Professor of Sociology (1968), B.A., M.A., Ph.D. (University of Pittsburgh)

VEIT, MARCIA R., Instructor in Accountancy (1980), B.A., M.B.A. (University of Arkansas)

VEIT, E. THEODORE, Assistant Professor of Finance (1978), B.S., M.S., Ph.D. (University of Arkansas)

VENTRE, GERARD G., Director, Technology Division, Florida Energy Center and Associate Professor of Engineering (1969), As.E., M.S., Ph.D. (University of Cincinnati), P.E. (Florida)

VICKERS, DAVID H., Chairman, Department of Biological Science and Associate Professor of Biological Sciences (1969), B.S., M.S., Ph.D. (Louisiana State University)

WALKER, ROBERT L., Professor of Engineering (1972), B.S., M.S., Ph.D. (Stanford University), P.E. (Florida)

WALL, DONALD B., Associate Professor of Engineering (1968), B.S.M.E., M.S., Ph.D. (Georgia Institute of Technology), P.E. (Florida, Georgia, South Carolina)

WALLACE, RONALD L., Assistant Professor of Sociology (1975), B.A., M.A., Ph.D. (University of Florida)

WANDO, JOYCE S., Assistant Professor of Sociology (1976), B.A., M.A., M.S.W. (University of Pennsylvania)

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WEHR, PAUL W., Professor of History (1969), A.B., M.A., Ph.D. (Ball State University)

WEHRLE, A. L., Chairman, Department of Military Science and Professor of Military Science (1975), B.S., M.A. (Ball State University)

WEIDENHEIMER, RUTH E., Professor of Education (1969), B.S., M.S., Ed.D. (Teachers College, Columbia University)

WILLIAM, CHARLES W., Acting Chairman, Department of Art and Associate Professor of Art (1971), B.F.A., M.A., M.F.A., (The University of New Mexico)

WELLS, THOMAS F., Provisional Instructor of Engineering Technology (1979), B.S. (Florida State University)

WELLSH, ANNE W., Assistant Professor of Theatre (1976), B.A., B.F.A., M.F.A. (University of New Orleans)

WHISLER, BRUCE A., Associate Professor of Music (1971), B.A., Ph.D. (University of Rochester)

WHISLER, MARIYAM W., Associate Professor of Political Science (1971), B.A., M.A., Ph.D. (University of Wisconsin)

WHITE, CHARLES J., Visiting Assistant Professor of Engineering (1977), B.S.A.E., B.S.E. (University of Central Florida), P.E. (Florida)

WHITE, HOLLICE R., Assistant Professor of Aerospace Studies (1978), B.A., M.Ed. (Georgia State University)

WHITE, KENNETH R., Associate Professor of Economics (1968), B.S., Ph.D. (University of Oklahoma)

WHITE, ROSEANN S., Associate Professor of Biological Sciences (1969), B.S., Ph.D. (University of Texas)
WHITEHOUSE, GARY E., Chairman, Department of Industrial Engineering and Management Systems and Professor of Engineering

WHITTIER, HENRY O., Professor of Biological Sciences
(1968), B.S.Ed., M.A., Ph.D. (Columbia University)

WIENCLAW, RUTH A., Assistant Professor of Psychology
(1979), B.A., M.A., Ph.D. (Memphis State)

WILLIAMS, ARTIE G., Instructor of Education
(1979), B.S., M.Ed. (University of Florida)

WILSON, JAMES, Visiting Associate Professor of Management
(1968), B.S., M.S. (Illinois State University)

WILSON, KATHERINE, Visiting Instructor in Accountancy
(1980), B.S.B.A., M.B.A. (Stetson University)

WINCHESTER, JACKSON L., Instructor in Economics
(1971), A.B., M.A., M.B.A., M.S. (University of Southern California)

WODZINSKI, RUDY J., Professor of Biological Sciences
(1970), B.S., M.S., Ph.D. (University of Wisconsin)

WOLF, J. GARY, Chairman, Department of Music and Professor of Music
(1972), B.M.Ed., M.M., D.M.A. (Eastman School of Music)

WOOD, ALEXANDER T., Associate Professor of Education
(1969), B.A., M.S., Ph.D. (Florida State University)

WORBS, HELMUTH E., Visiting Assistant Professor of Engineering
(1978), B.S.M.E., M.S.M.E. (Stanford University), P.E. (Florida, California)

WORKMAN, DAVID A., Assistant Professor of Computer Science
(1976), B.S., M.S., Ph.D. (University of Iowa)

WORRELL, LEWIS T., Instructor of Respiratory Therapy
(1976), RRT, B.S. (University of Central Florida)

WRANCHER, ELIZABETH A., Associate Professor of Music
(1974), B.M. (Indiana University) Prima Soprano Koblenz, Augsburg and Detmoid

WRIGHT, BURTON, Professor of Sociology
(1970), B.S., M.S., Ph.D. (Florida State University)

WYATT, WYATT L., Professor of English
(1970), B.A., M.A. (Columbia University)

WYCOFF, EDGAR B., Associate Professor of Communication
(1972), B.S., M.B.A., Ph.D. (Florida State University)

XANDER, JAMES A., Associate Professor of Economics
(1969), B.S., Ph.D. (University of Georgia)

YOUNG, WILLIAM W., Professor of Public Service Administration
(1969), A.B., M.A., Ph.D. (University of Pittsburgh)

YOUSEF, A., Professor of Engineering and Director, Environmental Systems Engineering Institute
(1970), B.S.C.E., M.S., Ph.D. (University of Texas), P.E. (Florida, Texas)

ZEGMAN, MARILYN A., Assistant Professor of Psychology
(1980), B.A., M.S., Ph.D. (Rutgers)

FACULTY WITH EMERITUS STATUS

CRAIG, ALBERT
(1970), B.S., M.A., Ed.D. (Florida State University)
Professor Emeritus of Education

LYTLE, ERNEST J.
(1968), B.S., M.A., Ph.D. (University of Florida)
Professor Emeritus of Mathematical Sciences

FOWLER, EARL C.
(1971), B.S.Ed. M.Ed. (University of Akron)
Professor Emeritus of Education
HONORARY DEGREES AWARDED

December, 1969  Kurt H. Debus, Doctor of Engineering Science
December, 1969  William H. Dial, Doctor of Commercial Science
June, 1970     John W. Young, Doctor of Applied Science
March, 1973    Louis C. Murray, Doctor of Public Service
August, 1974   Fred Elmo Clayton, Doctor of Professional Engineering
August, 1978   Richard F. Livingston, Doctor of Business Administration
August, 1980   Howard Phillips (Posthumous) Doctor of Public Service
August, 1980   Thelma Dudley, Doctor of Humanities

COURTESY APPOINTMENTS
ALBERT, JONATHON C., RRT. Clinical Faculty, Respiratory Therapy, and Director, Inservice Education, Cardiopulmonary Therapy, Orlando Regional Medical Center
B.S. (University of Central Florida)

BALSWIN, ERIKA, Clinical Faculty, Medical Record Administration, Winter Park Hospital
B.S. (Florida Technological University)

BASSETT, BRUCE H., Clinical Faculty, Respiratory Therapy and Supervisor of Sterilization, Repair and Maintenance, Cardiopulmonary Therapy Department, Orlando Regional Medical Center
A.A. (Valencia Community College)

BERGEN, GERALD J., Clinical Faculty, Radiologic Science, Halifax Hospital
R.T., (R), (ARRT) (Middlesex Hospital)

BONDER, CHERIE B., Clinical Faculty, Radiologic Sciences, Floride Hospital
R.T., (R), (ARRT) (Florida Hospital)

BRIDGES, WILLIAM D., Clinical Faculty, Respiratory Therapy, and Supervisor Respiratory Therapy Department, Lucerne General Hospital
A.S. (Valencia Community College)

CAPRAUN, LYNN W., Clinical Faculty, Respiratory Therapy and Director, Respiratory Therapy Program, Valencia Community College
R.T., B.S., M.S. (University of Central Florida)

CARLETON, CHARLES C., Clinical Faculty, Medical Technology, Winter Park Memorial Hospital
M.D. (McGill University)

CARR, EDWARD O., Clinical Faculty, Medical Technology and Managing Director, Central Florida Blood Bank
S.B.B., M.T., (ASCP), B.S. (Mississippi State)

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DOYLE BOB, CRTT. Clinical Faculty Respiratory Therapy, and Staff Therapist, Lucerne General Hospital
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FROST, LINDA L., RRT. Clinical Faculty, Respiratory Therapy, and Staff Therapist, Lucerne General Hospital
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RT, (ARRT)

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ART

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MAURER, DAVID A., Clinical Faculty, Medical Technology and Director of Laboratories, Winter Park Memorial Hospital
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SHIDELER, ROBERT S., RRT. Clinical Faculty, Respiratory Therapy, and Program Director, Respiratory Therapy Technician Vocational Program, Seminole Community College
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SKANTZ, RONALD, Clinical Faculty, Florida Hospital
B.S., M.P.H. (Loma Linda University)

SNYDER, ROBERT C., Medical Director, Respiratory Therapy Program
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