University of Central Florida

UNDERGRADUATE CATALOG 88-89
University of Central Florida
Orlando Vicinity Map

Suggested Routes:
Traveling West on I-4, from Daytona, Exit Route 436 (Altamonte Springs) to University Blvd.
Traveling East on I-4, from Tampa, Exit East-West Expressway (Toll) and East to Route 434.

From intersection of I-4 and East-West Expressway to Hwy 434: 13 miles
From intersection of Hwy. 434 to Campus: 2 miles
From Orlando International Airport: 20 miles
From Orlando Executive Airport: 7 miles
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.

The University of Central Florida, under applicable rules of the Administrative Procedures Act, may change any of the announcements, information, policies, rules, regulations, or procedures set forth in this catalog. The catalog is published once a year and can not always reflect new and modified regulations. Statements in this catalog may not be regarded in the nature of binding obligations on the institution or the State of Florida. While every effort will be made to accommodate the curricular needs of students, limited resources may prevent the University from offering all required courses in each semester or in day and evening sections.

Students will be held accountable for the requirements, policies, and procedures described in this catalog. Additional information or clarification of any policy or procedure may be obtained from the specified office.

The University of Central Florida is an Equal Opportunity Employer, and assures equal access to educational programs and activity opportunities without regard to race, sex, age, handicap, or national origin.

Volume 21, Number 1

May 1988

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Director, Instructional Resources ..................... Robert L. Arnold
Associate Vice President for Academic Affairs .... J. Edward Neighbor
Coordinator for Special Projects ..................... Gwen Haile
<table>
<thead>
<tr>
<th>Position</th>
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<tbody>
<tr>
<td>Vice President for Student Affairs</td>
<td>LeVester Tubbs</td>
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<tr>
<td>Dean of Undergraduate Studies</td>
<td>Charles N. Micarelli</td>
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<td>Associate Dean of Undergraduate Studies</td>
<td>Paul R. McQuilkin</td>
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<tr>
<td>Assistant Dean of Undergraduate Studies</td>
<td>David R. Dees</td>
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<tr>
<td>Assistant Dean of Undergraduate Studies</td>
<td>Lawrence A. Tanzi</td>
</tr>
<tr>
<td>Assistant to the Dean of Undergraduate Studies</td>
<td>C. Barth Engert</td>
</tr>
<tr>
<td>Chair, Aerospace Studies (AFROTC)</td>
<td>Col. Robt. E. Ceruti</td>
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<tr>
<td>Chair, Army ROTC</td>
<td>LTC. Daniel J. Conn</td>
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<tr>
<td>Chair, Hospitality Management</td>
<td>Abraham Pizam</td>
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<td>Director, Athletic Advising</td>
<td>Sandra B. Reeves</td>
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<td>Director, Community College Relations</td>
<td>Ralph C. Boston</td>
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<td>Director, Cooperative Education</td>
<td>Sheri E. Dressler</td>
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<td>Director, Liberal Studies Program</td>
<td>Dennis R. Kamrad</td>
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<td>Director, McKnight Center</td>
<td>Anthony M. Lewis</td>
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<td>Dean, Extended Studies</td>
<td>John B. O'Hara</td>
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<td>Director of Libraries</td>
<td>Anne Marie Allison</td>
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<tr>
<td>Associate Dean of Graduate Studies</td>
<td>Louis M. Trefonas</td>
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<td>Associate Dean of Graduate Studies</td>
<td>Roger B. Handberg</td>
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<tr>
<td>Director of Admissions and Financial Aid</td>
<td>Richard Goodenough</td>
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<td>Director of Records and Registration</td>
<td>Isaac E. Knight</td>
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<tr>
<td>Dean of Graduate Studies</td>
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<td>Office of the Vice President for Research</td>
<td>Michael Bass</td>
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<tr>
<td>Assistant Vice President &amp; Director for Research</td>
<td>Joan R. Burr</td>
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<td>Office of the Vice President for Administration and Finance</td>
<td>John R. Bolte</td>
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<tr>
<td>Associate Vice President for Administration and Finance</td>
<td>Joyce A. Clampitt</td>
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<tr>
<td>Director, Admin. Services &amp; Operations Analysis</td>
<td>Bill D. Morris</td>
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<tr>
<td>Director, Budget Office</td>
<td>James G. Smith, Jr.</td>
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<td>Director, Business Services</td>
<td>Richard M. Scott</td>
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<td>Director, Computer Services</td>
<td>William H. Branch</td>
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<td>Director, Environmental Health &amp; Safety</td>
<td>Hubert G. Ivie</td>
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<td>Director, Facilities Planning</td>
<td>Jerry G. Osterhaus</td>
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<tr>
<td>Director, Institutional Research &amp; Planning</td>
<td>Daniel R. Coleman</td>
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<tr>
<td>Director, Payroll Services</td>
<td>Mary C. Alford</td>
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<td>Director, Personnel Services</td>
<td>Mark A. Roberts</td>
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<tr>
<td>Director, Physical Plant</td>
<td>Anthony W. Blass</td>
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<tr>
<td>Director, Purchasing</td>
<td>Walter G. Winstead</td>
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<tr>
<td>Director, University Police</td>
<td>Ronald C. Seacrist</td>
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<tr>
<td>University Controller</td>
<td>Joseph Gomez</td>
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Office of the Vice President for Student Affairs

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
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<tbody>
<tr>
<td>Vice President for Student Affairs</td>
<td>LeVester Tubbs</td>
</tr>
<tr>
<td>Dean of Students</td>
<td>C. W. Brown</td>
</tr>
<tr>
<td>Assistant Vice President</td>
<td>Kenneth Lawson</td>
</tr>
<tr>
<td>Assistant Vice President</td>
<td>Carol P. Wilson</td>
</tr>
<tr>
<td>Assistant Dean of Students</td>
<td>Pamela S. Anthrop</td>
</tr>
<tr>
<td>Director, Creative School for Children</td>
<td>Dolores Burghard</td>
</tr>
<tr>
<td>Director, Counseling and Testing Center</td>
<td>Robert Harman</td>
</tr>
</tbody>
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5
Director, Student Information and Evening/Weekend
Student Services .................................................. Jimmy Watson
Director, Housing and Residence Life ....................... Christopher McCray
Director, International Student Services ................. N. D. Hoan
Director, Recreational Services ............................... Loren Knutson
Director, Student Center/Student Organizations ........... Jimmie Ferrell
Director, Student Health Services ............................ John G. Langdon
Director, Career Resource Center .............................. James W. Gracey
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Coordinator, Handicapped Student Services ................ Louise A. Friderici

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Executive Director, UCF Foundation, Inc. ................... D. Robert McGinnis
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Director, Annual Fund ........................................... Thomas B. Watkins
Director, University Development ............................ Kathleen Johnson Berlinsky
Coordinator, Alumni Relations ................................. Anthony C. Thompson
Coordinator, Legislative Relations ............................. TBA

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Assistant Dean .......................................................... Kathryn L. Seidel
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Chair, Chemistry ...................................................... D. Howard Snelson
Chair, Communication ............................................. James W. Welke
Chair, Computer Science ......................................... Amar Mukherjee
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Chair, Foreign Languages ......................................... Armando Payas
Chair, History ........................................................... Jerrell H. Shofner
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Chair, Mathematics .................................................. Lokenath Debnath
Chair, Music ............................................................. Bruce A. Whisler
Chair, Physics ............................................................ Subir K. Bose
Chair, Political Science ............................................. Joyce R. Lilie
Chair, Psychology ...................................................... Richard D. Tucker
Chair, Public Service Administration ......................... Raymond A. Shapek
Chair, Sociology and Anthropology ......................... David A. Fabianic
Chair, Social Work .................................................... K. J. Kazmerski
Chair, Statistics ......................................................... Linda C. Malone
Chair, Theatre .......................................................... Harry W. Smith, Jr.

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Associate Dean ....................................................... Harvey S. Lewis
Associate Dean ....................................................... Wallace W. Reiff
Assistant Dean .......................................................... Wade R. Kilbride
Director, School of Accounting ............................... Henry R. Anderson
Chair, Economics ............................................... Brian Rungeling
Chair, Finance .................................................. Harvey S. Lewis
Chair, Management .............................................. Halsey R. Jones
Chair, Marketing ................................................ Alvin C. Burns

College of Education

Dean ................................................................. William H. Johnson
Associate Dean .................................................. Robert G. Cowgill
Assistant Dean .................................................... John H. Armstrong
Chair, Educational Foundations ......................... Alexander T. Wood
Chair, Educational Services ................................. David J. Mealor
Interim Chair, Exceptional and Physical Education ........ Patricia E. Higginbotham
Chair, Instructional Programs ................................. Robert D. Martin
Director, Development and Extended Studies .............. Patricia C. Manning

College of Engineering

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Assistant Dean .................................................... Bruce E. Mathews
Assistant Dean .................................................... J. Paul Hartman
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Chair, Computer Engineering .................................. Christian S. Bauer
Chair, Electrical Engineering & Communication Sciences  Nicolaos S. Tzannes
Chair, Industrial Engineering and Management Systems ........ William W. Swart
Chair, Mechanical Engineering & Aerospace Sciences ......... Stephen L. Rice
Chair, Engineering Technology ................................. Richard G. Denning

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Chair, Communicative Disorders ............................... David Ratusnik
Director, Health Sciences ....................................... Thomas S. Mendenhall
Director, Medical Record Administration ..................... Lynda Kuyper
Director, Medical Laboratory Sciences ....................... Marilyn Kangelos
Chair, Nursing ................................................... Jean Kijek
Director, Radiologic Sciences ................................... Thomas Edwards III
FALL SEMESTER 1988

May 6  Registration deadline for CLAST to be given June 4
May 20  Last day for receipt of applications and required supporting
documents from International Students
June 4  CLAST and Graduate Record Exam (GRE)
July 29  Last day for receipt of regular undergraduate applications
         and required supporting documents.
August 1  Last day for receipt of readmission applications.
August 14  Residence Halls open for Fall Semester
August 15-16  Orientation and advisement for new freshmen and transfer
         students not pre-advised.
August 15-16  Advisement of current and former students not pre-advised
August 16-19  *Registration by appointment for the following student classi-
         fications: Graduate, current undergraduate, readmitted under-
         graduate, new undergraduate, and post-baccalaureate.
         Faculty and staff will register following the above appoint-
         ments. Registration will close after the last appointment.
August 22  Academic year and classes begin.
August 25  Last day to submit Grade Forgiveness Request
August 25  Last day to adjust class schedule (end of Add/Drop)
August 25  Last day for late registration (late registration runs con-
        currently with Add/Drop). A $25 late fee will be assessed.
August 25  Last day for refund
August 25  Only day to submit audit request
August 26  Last day to apply for graduation for those completing require-
         ments end of Fall Semester
September 2  Registration deadline for CLAST to be given October 1.
September 5  Labor Day Holiday (University-wide)
September 19  Last day for removing temporary student status
October 1  CLAST
October 8  Graduate Record Exam.
October 14  Deadline for withdrawal. Last day to withdraw from a course
         or the University.
October 14  Homecoming Celebration. No classes scheduled from
         Noon to 3:00 p.m.
October 14-16  Homecoming Weekend
November 11  Veterans’ Day Holiday (University-wide)
November 18  Last day to remove an "I" earned last semester
November 24-25  Thanksgiving Holidays (University-wide)
December 6  Classes end for Fall Semester
December 7  Prep day for final exams
December 8-14  Final Examination period
December 10  Graduate Record Exam
December 15  Residence Halls close (Residents must vacate residence
         halls. Returning residents may leave possessions in Spring
         Semester room assignment)
December 16 (5:00 p.m.)  Grades due in Registrar’s Office
December 16  Commencement
December 19  Christmas Holidays begin (students)

*The registration appointment time on appointment time card is valid for area campus
registration, also. Registration hours at area campuses may differ from the Orlando
Campus registration hours. Schedules printed and distributed by each area campus
(Brevard, Daytona Beach, and South Orlando) provide additional registration information
related to courses offered at those sites.

Admission Priority Deadline for Fall 1989—March 15
The University of Central Florida reserves the right to modify this deadline subject to funding and the num-
ber of applicants.
### SPRING SEMESTER 1989

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>October 15, 1988</strong></td>
<td>Priority deadline for receipt of regular undergraduate applications and required supporting materials</td>
</tr>
<tr>
<td><strong>December 2</strong></td>
<td>Last day for receipt of readmission applications.</td>
</tr>
<tr>
<td><strong>January 2</strong></td>
<td>Residence Halls open for Spring Semester</td>
</tr>
<tr>
<td><strong>January 3</strong></td>
<td>Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised.</td>
</tr>
<tr>
<td><strong>January 3-4</strong></td>
<td>*Registration by appointment for new and readmitted graduate, post-baccalaureate, and undergraduate students. Student registration will close following the last appointment. Faculty and staff will register following the above appointments.</td>
</tr>
<tr>
<td><strong>January 5</strong></td>
<td>Classes begin for Spring Semester</td>
</tr>
<tr>
<td><strong>January 10</strong></td>
<td>Last day to adjust class schedule (end of Add/Drop)</td>
</tr>
<tr>
<td><strong>January 10</strong></td>
<td>Last day to submit Grade Forgiveness Request</td>
</tr>
<tr>
<td><strong>January 10</strong></td>
<td>Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed.</td>
</tr>
<tr>
<td><strong>January 10</strong></td>
<td>Last day for refund</td>
</tr>
<tr>
<td><strong>January 10</strong></td>
<td>Only day to submit audit request</td>
</tr>
<tr>
<td><strong>January 13</strong></td>
<td>Last day to apply for graduation for those completing requirements end of Spring Semester</td>
</tr>
<tr>
<td><strong>January 16</strong></td>
<td>Martin Luther King Day. University Holiday.</td>
</tr>
<tr>
<td><strong>February 2</strong></td>
<td>Last day for removing temporary student status.</td>
</tr>
<tr>
<td><strong>February 4</strong></td>
<td>Graduate Record Exam</td>
</tr>
<tr>
<td><strong>February 10</strong></td>
<td>Registration deadline for CLAST to be given March 11.</td>
</tr>
<tr>
<td><strong>March 3</strong></td>
<td>Deadline for withdrawal. Last day to withdraw from a course or the University.</td>
</tr>
<tr>
<td><strong>March 6-10</strong></td>
<td>Spring Holidays</td>
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<tr>
<td><strong>March 11</strong></td>
<td>CLAST</td>
</tr>
<tr>
<td><strong>April 7</strong></td>
<td>Last day to remove an “I” earned last semester</td>
</tr>
<tr>
<td><strong>April 8</strong></td>
<td>Graduate Record Exam</td>
</tr>
<tr>
<td><strong>April 27</strong></td>
<td>Classes end for Spring Semester</td>
</tr>
<tr>
<td><strong>April 28</strong></td>
<td>Prep day for final exams</td>
</tr>
<tr>
<td><strong>April 29-May 5</strong></td>
<td>Final Examination period</td>
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<tr>
<td><strong>May 6</strong></td>
<td>Residence Halls close for Spring Semester (Summer residents move to Summer room assignment)</td>
</tr>
<tr>
<td><strong>May 8 (5:00 p.m.)</strong></td>
<td>Grades due in Registrar's Office</td>
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<tr>
<td><strong>May 9</strong></td>
<td>Commencement</td>
</tr>
<tr>
<td><strong>May 10</strong></td>
<td>Academic year ends</td>
</tr>
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</table>

*The registration appointment time on appointment time card is valid for area campus registration, also. Registration hours at area campuses may differ from the Orlando Campus registration hours. Schedules printed and distributed by each area campus (Brevard, Daytona Beach and South Orlando) provide additional registration information related to courses offered at those sites.*

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**Admission Priority Deadline for Spring 1990—Oct. 15**

The University of Central Florida reserves the right to modify this deadline subject to funding and the number of applicants.
### SUMMER SEMESTER 1989
(See also Summer "A" and "B")

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tr>
<td>February 15</td>
<td>Priority deadline for receipt of regular undergraduate applications and required supporting materials.</td>
</tr>
<tr>
<td>April 14</td>
<td>Last day for receipt of readmission applications.</td>
</tr>
<tr>
<td>May 5</td>
<td>Registration deadline for CLAST to be given June 3.</td>
</tr>
<tr>
<td>May 10</td>
<td>Residence Halls open for Summer Semester.</td>
</tr>
<tr>
<td>May 11</td>
<td>Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised.</td>
</tr>
<tr>
<td>May 11</td>
<td>Advisement for current and former students not pre-advised.</td>
</tr>
<tr>
<td>May 11-12</td>
<td>*Registration by appointment for new and readmitted graduate, post-baccalaureate, and undergraduate students. Student registration will close following the last appointment. Faculty and staff will register following the above appointments.</td>
</tr>
<tr>
<td>May 12</td>
<td>Only day to submit audit request</td>
</tr>
<tr>
<td>May 15</td>
<td>Classes begin for Summer Semester</td>
</tr>
<tr>
<td>May 17</td>
<td>Last day to adjust class schedule (end of Add/Drop)</td>
</tr>
<tr>
<td>May 17</td>
<td>Last day to submit Grade Forgiveness Request</td>
</tr>
<tr>
<td>May 17</td>
<td>Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed.</td>
</tr>
<tr>
<td>May 17</td>
<td>Last day for refund</td>
</tr>
<tr>
<td>May 19</td>
<td>Last day to apply for graduation for those completing requirements end of Summer Semester</td>
</tr>
<tr>
<td>May 29</td>
<td>Memorial Day Holiday (University-wide)</td>
</tr>
<tr>
<td>June 3</td>
<td>CLAST</td>
</tr>
<tr>
<td>June 3</td>
<td>Graduate Record Exam (General Only)</td>
</tr>
<tr>
<td>June 12</td>
<td>Last day for removing temporary student status</td>
</tr>
<tr>
<td>June 23</td>
<td>Last day to withdraw from a &quot;C&quot; Term course or the University.</td>
</tr>
<tr>
<td>June 24 (9:00 am)</td>
<td>Residence Halls close for Summer &quot;A&quot; residents</td>
</tr>
<tr>
<td>June 27</td>
<td>Residence Halls open for Summer &quot;B&quot; residents</td>
</tr>
<tr>
<td>July 4</td>
<td>Independence Day Holiday (University-wide)</td>
</tr>
<tr>
<td>July 14</td>
<td>Last day to remove an &quot;I&quot; earned last semester</td>
</tr>
<tr>
<td>August 4</td>
<td>Classes end for Summer &quot;C&quot; Semester. Final exam given at discretion of instructor.</td>
</tr>
<tr>
<td>August 5 (9:00 a.m.)</td>
<td>Residence Halls close for Summer &quot;C&quot; residents</td>
</tr>
<tr>
<td>August 11</td>
<td>Commencement.</td>
</tr>
<tr>
<td>August 12 (5:00 p.m.)</td>
<td>Grades due in Registrar's Office.</td>
</tr>
</tbody>
</table>

*The registration appointment time on appointment time card is valid for area campus registration, also. Registration hours at area campuses may differ from the Orlando Campus registration hours. Schedules printed and distributed by each area campus (Brevard, Daytona Beach, and South Orlando) provide additional registration information related to courses offered at those sites.

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**Admission Priority Deadline for Summer 1990—Feb. 15**

The University of Central Florida reserves the right to modify this deadline subject to funding and the number of applicants.
SUMMER "A" TERM 1989

February 15  Priority deadline for receipt of regular undergraduate applications and required supporting materials
April 14  Last day for receipt of readmission applications.
May 5  Registration deadline for CLAST to be given June 3
May 10  Residence Halls open for Summer "A" term
May 11  Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised.
May 11  Advisement for current and former students not pre-advised.
May 11-12  "Registration by appointment for new and readmitted graduate, post-baccalaureate, and undergraduate students. Student registration will close following the last appointment. Faculty and staff will register following the above appointments.
May 12  Only day to submit audit request
May 15  Classes begin for Summer "A" Term
May 17  Last day to adjust class schedule (end of Add/Drop)
May 17  Last day to submit Grade Forgiveness Request
May 17  Last day for late registration (late registration runs concurrently with Add/Drop). A $25 late fee will be assessed.
May 17  Last day for refund
May 19  Last day to apply for graduation for those completing requirements end of Summer Semester
May 29  Memorial Day Holiday (University-wide)
June 2  Deadline for withdrawal. Last day to withdraw from a course or the University
June 3  CLAST
June 12  Last day for removing temporary student status
June 23  End of Summer "A" Term, classes, and exams
June 24 (9:00 a.m.)  Residence Halls close for Summer "A" residents
June 28 (5:00 p.m.)  Grades due in Registrar's Office

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Admission Priority Deadline for Summer 1990—Feb. 15
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<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 15</td>
<td>Priority deadline for receipt of regular undergraduate applications and required supporting materials</td>
</tr>
<tr>
<td>May 19</td>
<td>Last day to apply for graduation for those completing requirements end of Summer “B” Term.</td>
</tr>
<tr>
<td>June 9</td>
<td>Last day for receipt of readmission applications.</td>
</tr>
<tr>
<td>June 27</td>
<td>Residence Halls open for Summer “B” residents.</td>
</tr>
<tr>
<td>June 28</td>
<td>Advisement for current and former students not pre-advised.</td>
</tr>
<tr>
<td>June 28</td>
<td>Orientation and advisement for new freshmen and transfer students, and advisement for readmitted students not pre-advised.</td>
</tr>
<tr>
<td>June 29</td>
<td>Registration by appointment for new and readmitted graduate, post-baccalaureate, and undergraduate students. Student registration will close following the last appointment.</td>
</tr>
<tr>
<td>July 3</td>
<td>Classes begin for Summer “B” Term</td>
</tr>
<tr>
<td>July 4</td>
<td>Independence Day Holiday (University-wide)</td>
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<tr>
<td>July 5</td>
<td>Last day to adjust class schedule (end of Add/Drop)</td>
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<tr>
<td>July 5</td>
<td>Last day for refund</td>
</tr>
<tr>
<td>July 6</td>
<td>Only day to submit audit request</td>
</tr>
<tr>
<td>July 7</td>
<td>Summer Graduation Application Deadline (“B”)</td>
</tr>
<tr>
<td>July 14</td>
<td>Last day to remove an “I” earned last semester</td>
</tr>
<tr>
<td>July 21</td>
<td>Deadline for withdrawal for Summer “B” Term students only.</td>
</tr>
<tr>
<td>August 1</td>
<td>Last day to withdraw from a course or the University.</td>
</tr>
<tr>
<td>August 10</td>
<td>End of Summer “B” Term, classes, and exams</td>
</tr>
<tr>
<td>August 11</td>
<td>Commencement</td>
</tr>
<tr>
<td>August 11</td>
<td>Residence Halls close</td>
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**Admission Priority Deadline for Summer 1990—Feb. 15**

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CAMPUS DIRECTORY

A.A. DEGREE APPLICATION
ACADEMIC CLASSIFICATION
ACADEMIC MATTERS/COUNSELING
ACADEMIC RESOURCE CENTER
ACADEMIC STATUS

ADD/DROP

ADDRESS CHANGE
ADMISSIONS/STANDARDS COMMITTEE
AUDIT A CLASS

BOARD ROOM (President's)
BOOKS, SUPPLIES, & SUNDRY ITEMS
CAMPUS TOURS (By Appointment)
CAREER RESOURCE CENTER
CATALOGS
CERTIFICATION OF ENROLLMENT:
INTERNATIONAL STUDENTS
GOOD STUDENT DISCOUNT
FINANCIAL AID & LOANS
CHANGE OF MAJOR
CHECK CASHING
CHECKING ACCOUNT
CLAST

COLLEGE LEVEL EXAMINATION
PROGRAM (CLEP)
COOPERATIVE EDUCATION
COUNSELING:
ADMISSIONS
CAREER

PERSONAL

RELIGIOUS
CREDIT BY EXAMINATION
DECALS (PARKING)
EMERGENCIES:
AUTOMOBILE
MEDICAL
STUDENT LOANS
EXTENDED STUDIES, COLLEGE OF
FINANCIAL AID
FLORIDA RESIDENT AFFIDAVIT
FRATERNITIES
GORDON RULE
GRADE FORGIVENESS
GRADUATE ADMISSIONS-LIAISONS
GRADUATION
HANDICAPPED STUDENTS

HEALTH INSURANCE
HELP WITH READING, SPEECH,
OR HEARING
"HOLD" CLEARANCES
HOUSING APPLICATION/PROBLEM
"I.D. CARD INFORMATION"
INTENT TO GRADUATE FORMS

Registrar/Records AD 1st Floor x2531
Registrar AD 1st Floor x2531
Academic Advisor (Degree Program Advisor)
PC 102 x5122
Registrar AD 1st Floor x2531
(or Academic Advisor in College)
Registrar/Records (Class Schedule
lists dates for current term)
Registrar/Records AD 1st Floor x2531
Admissions AD 1st Floor x2511
Registrar/Records AD 1st Floor x2531
(details in UCF Catalog & Class Schedule)
AD 3rd Floor
Bookstore, Student Services x2355
Student Center 198 x5105
AD 124 x2361
Bookstore, Student Services x2355
Registrar/Records AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
Registrar/Records AD 1st Floor x2531
Present Department
Bookstore, Student Services x2355
Credit Union, Student Services x2855
Student Academic Resource Center,
PC1-102 x5130
Counseling & Testing Center x2811
RS 203
AD 124 x2314

Admissions AD 1st Floor x2511
Counseling & Testing Center x2811
RS 203
Career Resource Center AD 145 x2361
Counseling & Testing Center x2811
RS 203
Campus Ministry SC 208 x2468
Dept. Chair within appropriate College
Police Department x2422

Police Department x2421
Police Department x2421
Financial Aid AD 120 x2060
AD 145 x2123
AD 120 x2627
Admissions AD 1st Floor x2511
Student Affairs AD 282 x2177
Undergraduate Studies AD 210 x2691
Registrar/Records AD 1st Floor x2531
AD 146 x2766
Dept. Chair/Advisor/Registrar/Records
Handicapped Student Coordinator
AD 282 x2371
Student Health Center x2701

Instructional Resources LIB 107 x5489
Registrar/Records AD 1st Floor x2531
Housing Office SC 137 x2171
Business Services AD 362 x2624
Registrar/Records AD 1st Floor x2642
INTERNATIONAL STUDENTS

INTERNATIONAL STUDENT SERVICES
AD 225 x2337

Recreational Services RS 101 x2408
Student Center x2117

AD 384 x2351
KIOSK x2060

Undergraduate Studies AD 210 x2691
AD 225 x2716

Registrar/Records AD 1st Floor x2531
Student Center x2117

Police Department x2422
Cashier's Office AD 110 x2881
Student Accounts AD 110 x2881

Admissions AD 1st Floor x2511
Financial Aid AD 120 x2827
Undergraduate Studies x2691
or College of major
Registrar/Records AD 1st Floor x2531
Student Affairs AD 282 x2177

SENIOR CITIZEN FEE WAIVER

STUDENT CENTER ROOM
RESERVATIONS

STUDENT EMPLOYMENT

TESTING: SAT, ACT, MCAT, GRE, GMAT

TIKTETS: ATHLETIC
THEATRE (Discount tickets)

TIME-SHORTENED DEGREE OPPORTUNITIES

TRAFFIC VIOLATIONS

TRANSCRIPTS:
ACADEMIC (official & unofficial)
FINANCIAL AID
TRANSFER HOURS SENT TO UCF
REQUESTS SENT FROM UCF

TRANSIENT STUDENT FORMS/APPLICATIONS:
OUTGOING
INCOMING

VEHICLE REGISTRATION

VETERANS’ BENEFITS

WITHDRAWAL FROM COURSES OR UNIVERSITY

CAN’T FIND AN ANSWER?
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 is a general-purpose state university which combines a contemporary and local role with one which is both traditional and universal. As part of the State University System of Florida, UCF seeks to serve the needs of the immediate community and the larger region in which it is located. As a university in the traditional sense, UCF seeks to serve its national and international constituents through its quest for new knowledge, the enrichment of the imagination, and the preservation of the knowledge and learning gleaned from previous generations and civilizations.

The University offers educational and research programs which complement a diverse economy with strong components in such fields as aerospace, banking, electronics, health, and tourism. UCF's programs in communication and the fine arts help to meet the cultural and entertainment needs of a growing metropolitan area.

In common with other universities, the University of Central Florida addresses its broader purpose through a general education program designed to produce well-rounded men and women with a balance of communicative and mathematical skills; historical, social, and scientific knowledge; and ethical, aesthetic, and artistic sensitivity.

In brief, the University's purpose in both its undergraduate and graduate programs is to provide its students with a significantly enhanced opportunity to lead lives which are both productive and meaningful.

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.

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

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.

ACCREDITATION

The University of Central Florida is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools as a Level IV, general postsecondary institution.

In addition to the regional accreditation agencies, a number of scientific, professional, and academic bodies confer accreditation in specific disciplines and groups of disciplines. Currently, the following areas have been approved by the agencies indicated. Within the College of Arts and Sciences accreditation is conferred in Chemistry by the American Chemical Society, in Music by the National Association of Schools of Music (NASM), and in Social Work by the Council of Social Work Education. The College of Business Administration is accredited at the graduate and undergraduate levels by the American Assembly of Collegiate Schools of Business (AACSB). In the College of Engineering the Civil, Computer, Environmental, Electrical, Industrial, and Mechanical Engineering options are accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineer-
ing and Technology (ABET). In the Department of Engineering Technology the Design, Electronics and, Operations Technology options are accredited by the Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology (ABET).

Within the College of Health accreditation has been approved by the agency indicated: Medical Record Administration by the Council on Allied Health Education Accreditation, Medical Technology by the Committee on Allied Health Education and Accreditation and the National Accrediting Agency for Clinical Laboratory Services, Nursing by the National League for Nursing (NLN), 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 Transfer Credit Practices on Designated Educational Institutions with the highest level of credit acceptability. This handbook is published by the American Association of Collegiate Registrars and Admission Officers, and lists the acceptability of transfer credits based upon the reporting institutions in the states, commonwealths, territories, and selected international institutions.

EAST CENTRAL FLORIDA AREA

UCF is located in the East Central Florida region with a population estimated at 1.7 million. The area is well endowed with cultural, educational, industrial, and recreational facilities. Cultural opportunities 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, quality public school systems, public community colleges, and several privately supported colleges and schools serve the educational needs of the area. Recreational opportunities abound in the Orlando area.

THE ORLANDO CAMPUS

The campus of UCF, located 13 miles east of downtown Orlando, sits on 1,227 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 85 million dollars have been invested in facilities and equipment including the library, classroom buildings, laboratories, residence halls, and student facilities. The Creative School for Children 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 University, presently through its main campus, serves some 17,000 students.

Residence halls can accommodate up to 900 students on campus. Single, double, and triple room arrangements are available, but most rooms are designed for double occupancy. Four halls built for the opening of classes in 1968 house up to 432 students in suite arrangements. Each suite consists of double bedrooms (a limited number of singles), common living room area, and a bath. Three additional halls completed in 1982 were designed as large double bedrooms with two bedrooms sharing an adjoining bath. A limited number of these rooms have been furnished to accommodate three students. All halls have central heat and air conditioning with limited maid service. Laundry facilities, vending machines, and common social/study lounges are provided for resident students. About half of the resident facilities are reserved for women and half for men. More detailed information may be obtained from: Director of Housing and Residence Life, University of Central Florida, P.O. Box 25000, Orlando, FL 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.
UCF Brevard Campus
UCF/BCC Lifelong Learning Center
1519 Clearlake Road
Cocoa, FL 32922

Director:
Robert W. Westrick
(407) 632-0067 UCF Ext. 2815

Associate Director, Program Development—Admission & Registration
J.P. Griffin
(407) 632-4127 UCF Ext. 2102 & 2104

Assistant Director, Student Services
James L. Nelson
(407) 632-4128 UCF Ext. 2102 & 2104

The University of Central Florida in Brevard is housed in a 5.8 million-dollar facility located on the Cocoa campus of Brevard Community College. At this site, the University offers junior, senior, and graduate-level courses and programs. Freshman and sophomore-level courses are provided by Brevard Community College. Students who have completed the Associate of Arts Degree are able to select from 20 baccalaureate programs offered by the University in Brevard. Newly admitted or currently enrolled UCF students may also register in selected upper-division elective courses presented at UCF-Brevard. In addition, six graduate programs are offered in Education, Business, Public Administration, and Engineering.

The coordination between the University of Central Florida and Brevard Community College for the 2 + 2 baccalaureate degree has been considered by many to be a model for other institutions of higher education in the State of Florida.

UCF-Brevard is a senior institution offering junior, senior, and graduate-level degree programs in the following academic disciplines:

College of Arts & Science (407) 632-4129
- Allied Legal Studies
- Computer Science
- Criminal Justice
- Public Administration

College of Business (407) 632-0098
- Accounting
- General Business Administration

College of Education (407) 531-5339
- Elementary Education
- Exceptional Education
- Mathematics Education
- Science Education
- Vocational/Technical Education
College of Engineering (407) 631-5366
  Computer Technology
  Design Technology
  Electronics Technology
  Information Systems Technology
  Operations Technology
College of Health (407) 631-5440
  Nursing
  Radiologic Science
Department of Liberal Studies (407) 632-4127
  Liberal Studies (B.A.)
  Liberal Studies (B.S.)
Graduate Programs
  Masters of Business Administration (MBA)
  Masters of Education Administration & Supervision (MEd)
  Masters of Education Exceptional Education (MEd)
  Masters of Public Administration (MPA)
  Masters in Engineering (MSE)
    FEEDS/ITV Graduate Engineering
    (Courses on videotape)

Information concerning the campus may be obtained by contacting the Admissions Office at the University of Central Florida-Brevard.
The Daytona Beach Campus of the University of Central Florida offers upper-level baccalaureate degree programs for area students who have completed two years of college and graduate programs for students who have completed baccalaureate degrees in appropriate fields.

The UCF Campus at Daytona Beach is located in a new 3.8 million-dollar Higher Education Center that it shares with Daytona Beach Community College. The faculty and staff at the new UCF facility have a strong commitment to serve the residents of Volusia and Flagler counties. Plans include expansion of present 2 + 2 baccalaureate degree programs between the University and Daytona Beach Community College with freshman and sophomore-level courses provided by the community college. Additional graduate programs and courses will also be added as a need is identified.

At present, degree programs are available in:

**Baccalaureate Level**
- Computer Science
- Criminal Justice
- Elementary Education
- General Business Admin. (Day & Evening)
- Liberal Studies
- Nursing
- Psychology (partial)
- Vocational Education

**Master’s Level**
- Admin. & Supervision/Ed.
- Business Administration (proposed)
- Counselor Education
- Elementary Education
- Engineering (Video)
- Public Administration
- Speech Pathology
- Vocational Education
Located in the middle of Orlando Central Park, near the intersection of I-4 and the Florida Turnpike, the University of Central Florida—South Orlando Campus (SOC) offers a variety of required courses and selected electives at a location convenient to students living or working in the Southern and Western parts of Orange County and Northern Osceola County. Evening offerings include both upper and lower division courses, as well as courses in Vocational Education, Graduate Engineering, and Liberal Studies. In a joint use arrangement with Valencia Community College, some lower-division courses are also scheduled during the day. Times and dates for all courses are listed in the regularly published Schedule of Classes, and students may register in the same way as they do for all other UCF classes.

INTERNATIONAL STUDIES AND PROGRAMS

The University of Central Florida offers a number of programs which give students an opportunity to gain first-hand information on the language, customs, economy, geography, politics, and the arts of societies abroad. Such programs involve travel abroad or study concentration on campus.

The Office of International Studies and Programs coordinates efforts of the various international programs on UCF’s campus and provides students, faculty, and the community with information concerning both these programs and opportunities for study abroad. The office:

• promotes student and faculty exchange programs with universities abroad;
• cooperates with the directors and faculty of the Area Studies Programs to develop new courses and areas of concentration dealing with foreign cultures;
• assists any department in the University that wishes to internationalize its curriculum;
• assists individual faculty and departments in their application for grants to develop foreign language and culture teaching techniques;
• assists and promotes the development of extracurricular activities related to foreign cultures, both on campus and in the community;
• encourages public and private enterprise to explore and pursue those areas of common interest that will be of mutual benefit to students and companies involved;
• cooperates with the International Student Office to promote international students’ participation in campus and community life.

The office is also a repository of faculty resource capabilities, programs, and research efforts in the field of international studies. These resources are available to the University and the community.
Ten to 15 semester credits may be earned through study abroad programs. Credit earned in these programs may be applied toward satisfying the summer credit requirement and the 30-hour residency requirement. Financial aid may be used on all UCF programs. All programs are approved by the Board of Regents and are open to all students in the State University System.

The primary purpose of study abroad programs is to improve the linguistic and cultural proficiency of the participants. Previous knowledge of the foreign language is advised but not required. Study abroad programs feature intensive language courses at the elementary, intermediate, and advanced levels. Students are placed in language classes according to their previous training. Admission requirements are a grade point average of 2.0 or better and evidence of good health, emotional stability, maturity, and adaptability. Admission to the programs does not constitute admission to the University.

For further information, please contact the International Studies Office at (407) 275-2302.

**Summer Study Program in Oviedo-Seville, Spain**

The program is divided between Oviedo and Seville, four weeks each, in order to give participants a better understanding of the country's culture. The program is administered with the cooperation of the universities of Oviedo and Seville. Week-end excursions to points of historical and artistic interest are part of the program's activities.

**Summer Study Program in Urbino, Italy**

The city of Urbino, on the slopes of the Eastern Appennines, is one of the major centers for the study of Renaissance art and architecture. The modern university sponsors a number of conventions of learned societies and cultural events in the summer. Courses in Renaissance art and modern Italian history are given in English; language courses are conducted in Italian.

**Summer Study Program in Lisieux, France**

Lisieux is in the heart of Normandy and very close to the beaches, but only 90 minutes by train from Paris. The area abounds with old and modern history from the time of Joan of Arc to the time of World War II. The program provides an intensive “total immersion” course in French designed to bring participants very quickly to a high level of oral proficiency.

**INSA Internship Program in Lyon, France**

The program is based on an agreement between UCF and the Institut des Sciences Appliquees de Lyon which gives engineering students from these institutions an opportunity to do one year of internship. Two years of French are required for UCF students.

**Minor in Soviet Area Studies**

Five departments—Foreign Languages, History, Political Science, Sociology and Humanities—have pooled their resources in order to offer students interested in Soviet Area Studies a basic and well-rounded background. The purpose of the minor is to give students an understanding of the linguistic, cultural, historical, political, and socio-economic issues in this area.

**Minor in Latin-American Area Studies**

Required courses in this minor include Anthropology, Art, Foreign Languages, History, and Political Science and are intended to give students a better understanding of the linguistic, political, and socio-economic factors in this area and the relationship between this area and the United States. The minor requires the completion of 18 semester hours selected from courses listed in the General Latin-American Foundation Areas. In addition, students must complete the introductory language sequence (or its equivalent) in French or Spanish.

**Minor in Judaic Studies**

An interdisciplinary minor in Judaic Studies is offered through the Department of Foreign Languages, with the cooperation of the Departments of Humanities, Philosophy and Religion, English, History, Political Science and Sociology/Anthropology. This minor requires 26-28 hours, including a general survey of Jewish history, at least 1 year of Hebrew, and 2-4 upper-level courses, depending on whether an additional year of Hebrew is taken.
Florida-Canada Institute

The Florida-Canada Institute is hosted by the University of Central Florida for the Florida Department of Education. The purpose of the Institute is to create and foster educational and commercial cultural and social exchanges between Canada and Florida. Also, the Institute will expand programs which already exist, such as the Canadian Speakers Series and the Summer Seminar on Canadian Studies for school teachers, and provide opportunities for the state-wide dissemination of information about Canadian Colleges and K-12 schools. Broward Community College is the Florida State Division of Community Colleges co-host for the Florida-Canada Institute.

Canadian Studies

A program for the study of Canada is available to students who wish to earn a) credits towards graduation, b) a Certificate of Canadian Studies, or, c) a minor in Canadian Studies. These programs are interdisciplinary and include courses from the departments of English, History, Political Science, Public Service, Administration, Foreign Languages, Anthropology, and the College of Engineering. This program is offered in conjunction with the Florida-Canada Institute, the purpose of which is to create and foster educational, commercial, cultural and social ties between Canada and the State of Florida. For information call Dr. Henry Kennedy at (407) 275-2079.

UNIVERSITY LIBRARIES

Director: Anne Marie Allison, LR 512, Phone (407) 275-2564
Associate Director: Orlyn B. LaBrake, LR 512, Phone (407) 275-2564

The University Library, housed in a new facility of 200,200 square feet, has a collection of over 500,000 volumes with approximately 5,000 subscriptions (journals, newspapers, and other serials) all available on open shelves for students and faculty. Catalog and circulation records for these materials are available in an on-line computer catalog, so that library users can determine whether the UCF Library owns a particular item, and the location and availability of the item. On-line access to catalogs of all state university libraries in Florida is also available.

During school terms the University Library is open approximately 87 hours each week, including evenings and weekends. A shortened schedule is maintained during vacation periods. A staff of professional librarians and support personnel is available to assist and advise those using the Library. Arrangements may also be made for class or small group instruction. Interlibrary loan service is available for faculty, staff, and students to obtain materials not available in the library's collections. Computerized literature searching is available through end-user or mediated searching.

Special services are provided for the handicapped. By using a computer terminal either connected to the University's main computer or a modem, handicapped students can determine the books they need from college department or from home, and telephone the Library to ask that books be brought to them at a convenient location on campus. A Kurtzweil reading machine is available in the Library for the visually impaired, and students or faculty may arrange for instruction in its use. Through the cooperation of the University's Office of Handicapped Student Services and the Florida Bureau of Blind Services, the library staff can aid handicapped students in obtaining special equipment they may need to utilize library resources.

Students enrolled in the University's extended campus centers in Daytona Beach and Brevard County receive a full range of services from the Daytona Beach Community College Library and the Brevard Community College Library. Students at the South Orlando Campus have access to a small collection maintained at the Center. On-line access to the catalog of the main library collection is available from all branch campus locations and materials are delivered through a regular courier service.
UNIVERSITY OF CENTRAL FLORIDA PRESS

The UCF Press is a member of UNIVERSITY PRESSES OF FLORIDA. The UCF Press actively solicits clearly-written scholarly manuscripts and original unpublished manuscripts of poetry for its Contemporary Poetry Series. Current submission guidelines may be obtained from: Director, UCF Press, Office of Graduate Studies, University of Central Florida, Orlando, FL 32816. The UCF Press selects a limited number of outstanding manuscripts for publication each year as UCF Press books. The printing, binding, distribution, and ordering of these books are handled through the central office of University Presses of Florida. A complete catalog may be obtained by writing to: University Presses of Florida, 15 NW 15th St., Gainesville, FL 32603.

The goal of the UCF Press is to assist the University’s scholarly and creative activity by publishing works of the highest quality.

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.

Through the leadership of the 60-member Board of Directors, the Foundation encourages, solicits, receives, and administers private gifts and bequests of property and funds for scientific, educational, and charitable purposes. All gifts to UCF are processed through the Foundation.

INSTRUCTIONAL RESOURCES

Director: Robert L. Arnold, LR 107, Phone (407) 275-2571
Associate Director: David W. Retherford
Associate Director: Keith H. Fowles

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 audiovisual and classroom support services; and a wide range of instructional development assistance and consultation. Instructional Resources also administers the Center for Faculty Support, the University Learning Center, the Listening Lab, Cable TV-Channel 35, Brevard Educational Cable Network, and WUCF-FM.

The Center for Communication Technology, a self-supporting auxiliary within the Office of Instructional Resources, will provide design, production, and presentation support to University-affiliated organizations, other educational institutions, educational non-profit organizations which have UCF faculty or staff as members, and local non-profit public service organizations.

UNIVERSITY BOOKSTORE

The University Bookstore, located in the Student Services Building, is a convenient facility for students to buy textbooks, supplemental books, supplies, gifts, and other items of interest to UCF students.

INTERCOLLEGIATE ATHLETICS

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 I. Varsity athletic contests at the University of Central Florida are governed by the rules of play published by NCAA and all established eligibility standards are observed.

UCF's current varsity sports include baseball, basketball, cross country, golf, football, rifle, soccer, and tennis for men. The women's sports include basketball, cross country, golf, rifle, soccer, tennis, and volleyball. Crew and waterskiing are intercollegiate club sports for both men and women.

FLORIDA SOLAR ENERGY CENTER

UCF provides administrative support to the Florida Solar Energy Center, one of the largest renewable energy research centers in the United States. Located on ten acres at Cape Canaveral, FSEC was created by the Florida Legislature in 1974 to advance
research, development, and analysis of solar technology. The Center has a highly qualified, multidisciplinary professional staff and comprehensive facilities for research and testing of photovoltaic cells, low-energy building designs, solar collectors, and domestic hot water systems. The facility also has extensive technology transfer facilities, including an energy library and an auditorium for energy workshops.

FSEC major programs include research into photovoltaics (solar-generated electricity), alternative water-heating systems, ocean thermal energy conversion, energy-efficient building design, natural lighting and ventilation, and other energy conservation techniques.

CENTRAL FLORIDA RESEARCH PARK

The Central Florida Research Park, abutting the main UCF campus, is a university related research park established as a result of legislation passed by the Florida Legislature in 1978. The Park is a cooperative effort between the University of Central Florida, the Orange County Research and Development Authority, and the Orange County Board of County Commissioners (who appoint the members of the Authority). The governing body of the Park is the Research and Development Authority.

The objectives of the Central Florida Research Park are in keeping with the legislative action which enabled its creation... "to encourage and promote the establishment...of research and development activity combining the resources of...institutions of higher learning, private sector enterprise involved in pure or applied research, and state or federal governmental agency research."

The ultimate goal of university-related research parks is to establish an academic/industry community resulting in a unique approach to the creation of a more effective cooperative academic/industrial endeavor. The University and officials of the Central Florida Research Park believe that the potential for the establishment of close ties between the University and industry will create an attractive environment conducive to the location of research-oriented industry in the Park. This activity will enrich and support the academic, teaching, and research programs of the University. The University, in turn, as a community of scholars, reservoir of knowledge past and present, and creator of new knowledge and discovery, can provide the necessary expertise and human resources to enhance the research and development activities required and planned by Park residents.

Totally planned to provide a campus-like environment for business adjacent to UCF, the Central Florida Research Park consists of over 1,000 acres of land. Businesses which desire a "university relationship" can purchase or lease land in the Research Park on which to construct a facility or can lease space for office, office/lab, or light manufacturing activities.

Four university organizations - the Institute for Training and Simulation, the Center for Research in Electro-Optics and Lasers, the Sinkhole Institute, and the Small Business Development Center - are located in the Research Park. The U.S. Naval Training Systems Center, the focal point of the nation's simulation and training industry, has its headquarters in the Research Park. Nearly a billion dollars a year in federal contracts is granted by NTSC each year.

Currently over 45 companies are located in the Research Park pursuing activities in simulation and training, lasers, optical filters, behavioral sciences, diagnostic test equipment, and oceanographic equipment. Almost 2,000 employees currently work in the Research Park with a projected total of 4,000 by the end of 1989.

Research Park tenants are involved with the University of Central Florida through sponsored research, using faculty as consultants, and using graduate and undergraduate students for intern programs and part time employment. Research Park tenants can also contract with the University for the use of computer resources and laboratory facilities. Cooperative projects range from technical research to developing business plans and employee training programs.
STUDENT AFFAIRS

INTRODUCTION
The term "student affairs" is used collectively to refer to the Student Affairs Division and its many functional departments responsible for the administration and management of programs, services, facilities, and activities designed to support the educational mission of the University. The Division of Student Affairs exists primarily to enhance the teaching and learning process through its programs and services. The Division, headed by a Vice President for Student Affairs, administers programs involving orientation, personal counseling, testing, housing, health services, international student services, recreational services, career planning and placement, student organizations, veterans' affairs, and other special activities. Students are invited to consult the staff of Student Affairs concerning any aspect of campus life.

Personal development may be enhanced through informed, experienced, and dedicated participation in University and community activities. 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 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.

OFFICE OF 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 staff in the Office of the Dean of Students is 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 Deans plan and assist in the development of University programs which provide for the personal, social, and academic adjustment of students. They counsel students confronted by personal, academic, financial, and social problems, and refer students to specialized professional services as necessary. In addition, the Deans supervise the student disciplinary process. The Deans are the primary source for students seeking information or assistance in non-academic areas of University operations.

The Division of Student Affairs annually publishes a student handbook called The Golden Rule. Information concerning more detailed aspects of student life is included in this handbook. Copies may be obtained from the Student Center Main Desk or from the receptionist in the Student Affairs Suite, Room 282, Administration Building.

STUDENT PRIVILEGES
Confidentiality of Student Records
The practices and procedures at the University of Central Florida for the confidentiality of student records are based upon Florida state regulations and the federal Family Educational Rights and Privacy Act of 1974. Students who have questions concerning the confidentiality of the Dean of Students. Details of the University practices for confidentiality are presented in The Golden Rule.

Student Government
The purpose of the Student Government is to represent student opinion, advance the cause of students both socially and academically, promote communication, cooperation, and understanding among students, and administer Activity and Service fees. Student Government represents students' needs and concerns at the state and federal level. Student Government provides many services to students, including discount movie and attraction tickets, tutor referral, consumer affairs education, carpool coordination, and vehicles for student organization use.

Every student enrolled at the University of Central Florida is a member of Student
Government. The interests of students are represented through three branches of government: the executive branch, headed by an elected student body president and vice president, the student senate (legislative branch) composed of representatives of every college, and the Judicial Council (judicial branch). In addition to these offices, there are many openings for appointed offices and on Student Government and University committees. By actively participating in Student Government, or by voicing opinions and ideas through representative legislators, a student may gain valuable experience in the freedoms and responsibilities of the democratic process. Students interested in working with Student Government may obtain information from the Student Government offices located in the Student Center.

STUDENT LEGAL SERVICES

Student Legal Services seeks to provide students with advice and consultation including court representation in selected areas of law such as landlord/tenant, consumer, simple wills, and non-criminal traffic. Each eligible student (an undergraduate enrolled in six UCF hours or graduate enrolled in four UCF hours) is entitled to consult with the Program Attorney about any legal matter not excluded by program guidelines, free of charge. Students in need of legal services should contact Student Legal Services at (407) 275-2538, or Student Center Room 210. This service is by appointment only and no legal advice is given over the phone.

STUDENT RESPONSIBILITIES

Classroom Responsibility
Students are responsible for maintaining a classroom decorum appropriate to the educational environment. When the conduct of a student or group of students varies from acceptable standards to such an extent that it becomes disruptive to normal classroom procedures, 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. Detailed conduct regulations and procedures are presented in The Golden Rule. A person applying for admission to UCF who has been charged with a criminal offense may have circumstances of the case reviewed by the appropriate Student Affairs administrator to consider eligibility for admission.

SERVICES

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 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 sessions. The Mathematics Placement Tests are given at Orientation for those new students who are required to take them.

Academic Peer Advisement Program
The Academic Peer Advisement Team consists of 50 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 the Counseling and Testing Center, Recreational Services Building, Room 203, 275-2811.

University Counseling and Testing Center
The University Counseling and Testing Center (Recreational Services Building, Room 203) offers a professional staff of psychologists and counselors to assist students through educational, vocational, and career counseling; and personal, social, relationship, marriage, and family counseling.

The Center administers the following national testing programs: GRE, LSAT, GMAT, and MCAT. In addition, the Center administers the College Level Academic Skills Test (CLAST). A variety of interest, aptitude, career, occupational, and personality assessments are also offered.

The Center presents special programs throughout the year, including encounter groups, training in relaxation and coping skills, marital enrichment programs, self-hypnosis training, consciousness growth groups, race relations groups, stress reduction training, and assertiveness training workshops. All Center services are free to UCF students.

Career Resource Center - Career Planning and Placement
The Career Planning and Placement Office, located in Suite 124 of the Administration Building, is a career resource center for all University of Central Florida students and alumni. The office's placement professionals provide individualized counseling about current and projected trends in the job market. Services also include: resume advice and critiquing, CHOICES—computerized career guidance, career planning mini-classes, resume referrals at employers' request, on-campus interviews by employers, lists of full-time and part-time job vacancies, interviewing tips, and help in organizing a job search.

The Center Resource center is also a valuable career information center. A library housed in the office provides information about a broad cross section of employers.

Students just beginning studies at UCF are advised to begin preparing for a career. To make the most effective use of the Placement Service, seniors are urged to register with this office two semesters prior to graduation.

Further information may be obtained by visiting the Center or telephoning (407) 275-2361

Housing
1. Regularly enrolled single students paying registration fees for a minimum of nine semester hours may apply for assignment to University residential units. Because of the limited amount of space in University housing facilities (444 spaces for females and 423 spaces for males), the University of Central Florida does not require any student to live on campus.

Priority for assignment is given to incoming Freshmen who will occupy approximately 50 percent of the University's housing capacity, and current residents who will occupy most of the remaining space. The spaces set aside for incoming Freshmen are limited by the University's overall housing capacity. Therefore, those desiring to reside on campus should apply for admittance to the University as soon as possible.
Applications for housing can be accepted only from those applicants who have been admitted to the University. Priority for room assignments for new applicants is based on the date of receipt of the completed housing application in the Housing Office. Applicants should CAREFULLY READ the application before submitting it to the Housing Office along with the Letter of Acceptance to the University and the $150.00 prepayment.

2. Housing contracts, when issued for Fall Semester occupancy, serve as a two-semester (Fall AND Spring) obligation between the applicant and the Housing Office. Housing contracts issued for the Summer Semester are a one-semester (Summer Only) obligation, and do not extend to include an assignment to Fall housing accommodations.

3. Applicants have the option of choosing one of several Meal Plans available at the University. Specific information concerning University Meal Plans is available from SAGA Corporation, P. O. Box 26029, UCF, Orlando, FL 32816.

Applications and other information concerning University housing may be obtained by consulting the Department of Housing and Residence Life, P. O. Box 26000, UCF, Orlando, FL 32816.

Student Health Services

Recognizing the importance of lifestyle in health and the prevention of disease, the Student Health Services combines quality care for illness and accidents with an aggressive health education and lifestyle enhancement program. There is a Student Wellness Advocate Team to enhance the health promotion efforts of the Student Health Center.

The Student Health Center (SHC) is staffed by medical doctors, a certified nurse practitioner, physician’s assistant, nurses, pharmacist, technicians, and a complete support system. Full referral service to Orlando area specialists is established. Charges incurred outside the Student Health Center are the responsibility of the student. When the Student Health Center is not open, students can use the “Hot Line” phones at the front and back doors of the building to obtain help for urgent needs.

By Board of Regents regulation, each student must demonstrate Rubella and Rubella immunity prior to registration. The Student Health Center cannot provide immunization services to meet this requirement. It is a pre-registration requirement and prospective students are not eligible for services at the SHC. A routine health history form is also completed prior to registration and this information is used for background purposes in providing medical care services. Medical records are held in the strictest confidence.

Each health fee paying student is entitled to the benefits outlined in the SHC brochure; faculty and staff can only be seen on an emergency basis, and then for a fee (except Worker’s Compensation cases). Optional health and accident insurance may also be purchased. Further information about options may be obtained from the SHC at (407) 275-2701. Blood drives are held several times annually.

Student Center

Student life at the University of Central Florida emanates from the Student Center. As the focal point for campus activity, the Student Center serves students, faculty, staff, patrons, alumni, and guests with its many programs, services, and facilities. The Student Center is funded through Activity and Service fees as allocated by Student Government.

Located within the Student Center are many student-oriented offices including Student Government, Student Center and Student Organizations, the Program and Activities Council and Programming Department, Legal Services, Housing, Veterans’ Affairs, Campus Ministries, Interfraternity Council, and Panhellenic Council.

Other facilities include four food service operations, auditorium, conference and meeting rooms, game room, the Activities Center, information desk, and lounges.

Recreational Services

The Office of Recreational Services offers a wide variety of sports and recreational opportunities to the students of UCF and their immediate families, as well as a limited number of opportunities to UCF faculty, staff, and the surrounding community.

The services provided include intramural sports leagues and tournaments, summer co-recreational leagues, organized recreation and fitness programs, unstructured open recreation, and sports-related special events. Equipment may be checked out for use on and off campus, and a silkscreen printing service is provided for campus groups and individuals.

Recreational Services exists to serve the UCF community and welcomes the opportunity
to serve each individual. A friendly staff is ready and willing to assist with complete information on its programs. The Office of Recreational Services is located next to the pool. The phone number is (407) 275-2408.

**Office of Student Information and Evening/Weekend Students Services**

The Office of Student Information and Evening/Weekend Student Services is a one-stop communications network and information center committed to gathering and disseminating information to students. The office is also responsible for the administrative supervision of student affairs functions for all University students taking evening and weekend classes. Telephone: (407) 275-2821.

**Information Booth & Evening Student Services**

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>9:00 a.m. to 9:00 p.m.</td>
<td>Monday through Thursday in second floor Admin. Bldg. and Education Bldg. Lobby.</td>
</tr>
<tr>
<td>9:00 a.m. to 5:00 p.m.</td>
<td>Friday (same locations as above)</td>
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**Weekend Student Services**

<table>
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<tr>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>10:00 am to 2:00 pm</td>
<td>Saturday at SG Kiosk (407) 275-2060</td>
</tr>
<tr>
<td>2:00 pm to 5:00 pm</td>
<td>Sunday at SG Kiosk (407) 275-2060</td>
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**International Student Services**

The International Student Office provides services for all international students and resident aliens. Its central role is to assist students and scholars attending UCF under F-1 or J-1 visas in their adjustment to the changing lifestyle in order to achieve their educational goals and gain a meaningful living experience in the United States. A wide range of special services is provided to the UCF international community, such as issuance of immigration forms I-20 A/B and IAP-66, assistance in locating off-campus apartments, counseling on personal, financial, academic, and cross-cultural communication matters, advisement in immigration and tax matters, promotion of social activities, and home visits in Central Florida. Further information may be obtained from the International Office, Administration Building Suite 225. Telephone: (407) 275-2337.

**Handicapped Student Services**

The Office of Handicapped Student Services provides information and orientation to campus facilities and services, assistance with handicapped parking permits, assistance with classroom accommodations, 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 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.

Individuals with access to a Telecommunications Device for the Deaf can secure information from Handicapped Student Services by phoning (407) 275-2116 (TDD calls only).

**Creative School for Children**

The school provides an educational program, including kindergarten, for children two through five years old. The daily program is planned and conducted 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. Opportunities for educational research are available to University faculty and graduate students.

The school conducts a Summer Day Camp for elementary school children during Summer "B" semester.
Office of Veterans' Affairs

The Office of Veterans' Affairs (SC 132) is a center for students who are using VA educational benefits 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 concerns as well as referral to various community agencies. Veterans and eligible dependents must be certified through the Office of Veterans' Affairs to receive VA educational benefits. The Office monitors the academic progress of all those receiving VA educational benefits.

All veterans and eligible dependents are urged to consult the Office of Veterans' Affairs early in the process of applying for admission to UCF.

Veterans' Benefits

Veterans and eligible dependents who are entitled to VA educational benefits must make initial contact with the Office of Veterans' Affairs.

Undergraduates must carry at least 12 semester hours for full-time VA benefits, 9 semester hours for three-fourths time benefits, and 6 semester hours for half-time benefits. Five semester hours or less will be reimbursed at cost of tuition and fees only. Those students with a baccalaureate degree who are classified by the University as post baccalaureate must meet the same eligibility criteria as undergraduates. Veterans and eligible dependents who are fully accepted in a graduate degree-seeking program are required to carry 6 semester hours in courses numbered 5000 and above for full-time benefits, 4 to 5 semester hours in courses numbered 5000 and above for three-fourths time benefits, and 3 semester hours in courses numbered 5000 and above for half-time benefits.

Veterans and eligible dependents intending to enroll simultaneously at UCF and another institution have the option to receive VA benefits, but must first consult the Office of Veterans' Affairs. Veterans and eligible dependents who wish to pursue a double major or a minor may also receive VA benefits but must first make arrangements through the Office of Veterans' Affairs.

In order to receive education benefits, veterans and eligible dependents must maintain satisfactory academic progress. Accordingly, benefits will be terminated for individuals who are disqualified or excluded from the University. Individuals placed on academic probation will continue to receive benefits as long as a 2.0 or higher GPA is earned each semester. However, benefits will be terminated once the veteran or eligible dependent has earned the required semester hours of coursework for the program of study regardless of GPA or eligibility for graduation.

Veterans and eligible dependents may draw VA benefits during the periods of eligibility while on cooperative education assignments. The recipient may choose to receive assistance at the “Co-op rate” which is approximately 80 percent of the entitled monthly VA benefit. Payment is received during both on-campus enrollment semesters and off-campus work terms. In this program, students must enroll in at least 12 credit hours during on-campus semesters. Benefit eligibility time is not extended through this option.

Eligible recipients may choose not to receive benefits during cooperative education assignments. In this case, full benefits are received during on-campus enrollment semesters. Benefits cease during off-campus work terms unless the student is currently enrolled for 12 credit hours.
ADMISSION

APPLICATION FOR ADMISSION

HOW TO APPLY: Applicants should complete the State University System application for admission and include a 15-dollar non-refundable application fee. Applicants should also request official transcript(s) from each educational institution attended to be forwarded directly to the Admissions Office. Students are encouraged to apply several months in advance. Applications will be accepted up to one year prior to the start of the term desired, and the application deadline for each term is approximately eight weeks prior to the start of the term. The exact date appears in the college calendar. Applications should be mailed to the Admissions Office, University of Central Florida, Orlando, FL 32816.

The University encourages applications from qualified persons of both sexes from all cultural, racial, religious, and ethnic groups. The University does not discriminate on the basis of handicap in admission or access to its programs and activities. Additionally, both the Educational Testing Service (SAT) and the American College Testing program (ACT) have information describing special testing arrangements for handicapped applicants who are unable to take the required tests.

A summary of the general requirements for admission or readmission to the University is as follows:

1. A satisfactory academic record. Each applicant must furnish a complete chronological record of educational institutions previously attended. Official transcripts must be submitted in accordance with instructions on the application form.

2. Satisfactory scores on the Scholastic Aptitude Test (SAT) or the American College Test (ACT). Students whose native language is not English must also submit a Test of English as a Foreign Language (TOEFL) score. The required minimum TOEFL score is 550.

3. A satisfactory conduct record.

NOTE: Florida Board of Regents regulations provide that furnishing false or fraudulent statements or information in connection with an application for admission or residence affidavit may result in disciplinary action, denial of admission, and invalidation of credits or degrees earned.

Applicants should understand that minimum requirements are given and that admission to the University is a selective process. The satisfaction of minimum requirements does not automatically guarantee admission. Conversely, Florida Board of Regents policy allows the University to admit students to any semester as exceptions to the minimum requirements. The Admissions Office and the Admissions and Standards Committee are responsible for the admission of undergraduate students under this policy.

ADMISSIONS AND STANDARDS COMMITTEE

The Admissions and Standards Committee is composed of representatives from the University: members represent the Faculty Senate, Minority Student Services, Student Affairs, Undergraduate Studies, the Student Body, and the Admissions Office. This committee normally meets on a regular schedule to review marginal cases and to consider the appeals of applicants. A letter of explanation to the Chair, Admissions & Standards Committee is recommended in establishing the basis for an appeal. Students have the option of appealing a decision in person before the Admissions and Standards Committee.

REACTIVATION

A student who has submitted an application for admission to UCF but never attended may reactivate his original application by submitting a reactivation form within two years of the date of the original application. The deadline date for reactivation is the same as the deadline for new applications for admission. (This date appears in the academic calendar.)

READMISSION

Students not in attendance for two academic semesters (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. Students who have been disqualified or excluded must complete a readmission application.
The student is also encouraged to write a letter of appeal to the Chair, Admissions and Standards Committee describing the particular circumstances since the time of disqualification or exclusion. Students may make a personal appearance before the committee if they desire.

Any former student readmitted whose all-college or UCF cumulative grade point average was less than 2.0 ("C") at the time he withdrew will be readmitted on academic probation.

LIMITED ACCESS PROGRAMS

A limited access program uses selective admission to limit program enrollment. Limited access status is justified where student demand exceeds available resources, such as faculty, instructional facilities, or equipment, or when specific accrediting requirements apply. Criteria for selective admissions include indicators of ability, and indicators of performance creativity or talent to complete required work within the program. Community college transfer students with Associate of Arts degrees from Florida community colleges are given equal consideration with UCF students. Admissions to such programs are governed by 6A-10.24(8), the Articulation Agreement, and by 6C-6.01, FAC, of the Board of Regents rules.

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.

Medical History Report

Each student accepted for admission shall, prior to registration, submit a Medical History Report provided by the institution. Documentation of appropriate immunization for measles
and rubella is required. Proof of immunization must be provided. This shall be a minimum requirement, and the institution may require, in addition, such other evidence of examination as may be determined necessary. Where physician examinations or certificates are required, they must be signed by a doctor of medicine or a doctor of osteopathy.

Students 40 years of age or over are exempt from the Immunization Requirement but are required to submit the Medical History Report. Students will be given no more than 20 class days of the first semester of enrollment to submit all final records to the Admissions Office.

The University reserves the right to refuse registration to any student whose health record or report of medical examination indicates the existence of a condition which may be harmful to members of the University community.

The Medical History Report form will be mailed to the applicant with receipt for the Application for Admission. Applicants should return the Medical History report to the Registrar's/Records Office.

**Deadline**

All supporting admissions documents, such as transcripts and test scores not recorded on official transcripts, should be received by the Admissions Office no later than 20 days preceding the first day of classes. In some cases applicants may be allowed to register on a temporary basis without all records if eligibility for admission can be determined from available records or consultation with the student.

A Transfer Summary Report (TSR) will not be prepared on a priority basis for students from whom final transcripts from each educational institution attended have not been received by the 20th class day. Those students who have not submitted complete records by the 35th class day will be placed on administrative hold and will not be permitted to pre-register or register for a future term until all transcripts and other required documentation have been received.

**FRESHMAN APPLICANTS**

Any student who meets the minimum admission requirements and is interested in attending the University of Central Florida is urged to submit an application. The University will do everything possible to accept all qualified applicants who apply before the application deadline date. If the number of qualified applicants exceeds the number that the University is permitted to enroll, admission will be on a selective basis. An applicant's total high school record including grades, test scores, educational objective and pattern of courses completed, school recommendation, and personal record will be considered in the selection process.

The University reaffirms its Equal Educational Opportunity (EEO) commitments and will seek ways to increase the enrollment of minority students.

**High School Diploma**

Beginning freshman students who are applying for admission to the University are normally required to have a diploma from a Florida public high school or an accredited out-of-state high school. Foreign diplomas must meet the requirements specified in Florida Statutes, section 229.814. Students admitted under acceleration mechanisms are exempted from this requirement.

**Entrance Examination Scores**

All applicants for admission must submit test scores from the Scholastic Aptitude Test (SAT) or from the American College Testing (ACT) program.

A total score of at least 840 on the Scholastic Aptitude test (SAT) is required with a minimum verbal score of 340, a minimum quantitative score of 400, and a minimum score of 30 on the Test of Standard Written English (TSWE). On the American College Test (ACT), a composite score of 17 is required with a minimum of 14 on the English subsection and a minimum of 13 on the math subsection.

**High School Academic Units and Grade Point Average**

All applicants must have earned a minimum number of high school academic units (year-long courses which are not remedial in nature) as shown in the table below to be considered for admission. The academic grade point average (GPA) will be computed only on these units. Grades in honors courses, International Baccalaureate, and College Entrance Examination Board (CEEB) Advanced Placement (AP) courses will be given additional weight in the computation of the academic grade point average.
The high school academic unit requirements are as follows:

<table>
<thead>
<tr>
<th>ACADEMIC SUBJECT</th>
<th>UNITS REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>4¹</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3²</td>
</tr>
<tr>
<td>Natural Science</td>
<td>3³</td>
</tr>
<tr>
<td>Social Science</td>
<td>3⁴</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>2⁵</td>
</tr>
<tr>
<td>Additional academic electives from the above five subject areas and courses recommended by the Florida Association of School Administrators, or other groups, and courses recommended by the Articulation Committee, and approved by the Department of Education.</td>
<td></td>
</tr>
</tbody>
</table>

1. Three of which must have included substantial writing.
2. At or above the Algebra 1 level.
3. Two of which must have included substantial laboratory requirements.
5. Both credits must be in the same language.

**Eligible Applicants**

Eligibility for admission is subject to satisfactory receipt and review of all items required in the admission process.

All applicants must meet the following State University System (SUS) minimum eligibility index standards:

<table>
<thead>
<tr>
<th>If the High School GPA in the required academic courses equals any entry in this column,</th>
<th>the SAT/ACT score must equal or exceed the corresponding entry in this column</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>1050/24</td>
</tr>
<tr>
<td>2.1</td>
<td>1020/23</td>
</tr>
<tr>
<td>2.2</td>
<td>990/22</td>
</tr>
<tr>
<td>2.3</td>
<td>960/21</td>
</tr>
<tr>
<td>2.4</td>
<td>930/20</td>
</tr>
<tr>
<td>2.5</td>
<td>900/19</td>
</tr>
<tr>
<td>2.6</td>
<td>890/19</td>
</tr>
<tr>
<td>2.7</td>
<td>880/18</td>
</tr>
<tr>
<td>2.8</td>
<td>870/18</td>
</tr>
<tr>
<td>2.9</td>
<td>860/18</td>
</tr>
<tr>
<td>3.0</td>
<td>840/17</td>
</tr>
</tbody>
</table>

A student applying for admission who does not meet these requirements may bring to the University other important attributes or special talents and may be admitted if, in the judgement of the Admissions and Standards Committee, it is determined from appropriate evidence that the student can be expected to do successful academic work. The University will provide an individual learning plan for each student admitted under this alternative.

**TRANSFER APPLICANTS**

All college transfer applicants must be in good standing and eligible to return to the last institution attended as a degree-seeking student, and have a grade point average of at least 2.0 on a 4.0 system on all college-level academic courses attempted.

**Applicants with Fewer Than 60 Credit Hours**

All college transfer applicants with fewer than 60 semester hours of acceptable credit must be in good standing and eligible to return to the last institution attended as a degree-seeking student, meet freshman high school unit entrance requirements with at least a 3.0 high school academic grade point average and a minimum SAT total score of 1000 or an ACT composite of 23, and have at least a B average for all college-level academic courses attempted.
Applicants with an A.A. Degree from a Florida Public Institution

Transfer applicants are encouraged to review the current edition of UCF’s TRANSFER STUDENT COUNSELING MANUAL available in Florida community college counseling offices. The manual gives the recommended community college course requirements for all majors as well as other helpful information.

Admission of Associate of Arts (A.A.) degree graduates from Florida public community colleges and Florida state universities will be governed by the Articulation Agreement between the state universities and public community colleges of Florida, as approved by the Board of Regents and the State Board of Education. The agreement states that within curriculum, space, and fiscal limitations, admission as a junior to the upper division of the University shall be granted to any graduate of a state-approved Florida community college or State University System institution who has completed the university parallel program and who has received the Associate of Arts degree which included all of the following:

1. At least 60 semester hours of academic work exclusive of occupational courses and basic required physical education courses.
2. An approved general education program of at least 36 semester hours.
3. A grade point average of at least 2.0 on a 4.0 system on all college-level academic courses attempted, provided that only the final grade received in courses repeated by the student shall be used in computing the average.
4. One year of college instruction in a single foreign language. (This requirement applies to those students without the required two units of foreign language in high school.) Students who receive an Associate of Arts degree from a Florida public community college or university but have not met the foreign language requirement and do not qualify in one of the exempt groups defined below may only be admitted to the lower division of the University. Admission to the upper division will be granted when the foreign language requirement is satisfied.

Two groups of students are exempt from the foreign language portion of the admission requirement. These groups are:
A. Students who receive an Associate of Arts degree prior to September 1, 1987.
B. Students who enroll prior to August, 1989 in an Associate of Arts program at a Florida public community college and maintain continuous full-time enrollment through the completion of the A.A. degree and their transfer to UCF. Continuous full-time enrollment shall be defined as enrollment for a minimum of 24 credit hours during any 2 semesters and a related summer term.

Applicants with an A.A. Degree from a Private or Out-of-State College

Applicants with an Associate of Arts degree from a regionally accredited private or out-of-state institution must meet freshman admission requirements.

Any student who received an Associate of Arts degree prior to September 1, 1987 is exempt from the foreign language portion of the admission requirements.

Applicants with an A.S. Degree

Only in one case does the A.S. degree assure admission to UCF: applicants who have received an Associate of Science degree in Engineering Technology from a Florida public college or university will be admitted to the Bachelor of Science in Engineering Technology program. All other A.S. degree applicants must meet the appropriate admission requirements defined in this section.

The A.S. degree does not certify the student as having completed General Education requirements.

Applicants—More Than 60 Hours, Have Not Received an A.A. Degree

In addition to meeting the requirements which apply to all transfer applicants, undergraduate transfer students who wish to be admitted to UCF as upper division students must have met all of the following requirements:

1. A minimum of 60 semester hours of academic coursework.
2. The English and mathematics requirements of the Gordon Rule.
3. Passing scores on three of the four parts of the College Level Academic Skills Test.
4. Eight to 10 semester hours of college instruction in a single foreign language. (This requirement applies to those students admitted to the University without the required two units of foreign language in high school.)
Applicants who have not met the above requirements may only seek admission into the lower division, and consequently must meet freshman application requirements (defined in “Freshman Applicants” paragraph of this section), which include high school units, entrance examination scores, and high school GPA, in addition to meeting requirements which apply to all transfer applicants.

Applicants from Unaccredited Institutions
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 probationary and/or non degree-seeking basis, depending upon the applicant’s record including high school units, entrance examination scores, and high school GPA. The “Transfer Credit” portion of this section provides information relating to transfer of credit for courses taken at unaccredited colleges or universities.

TRANSFER CREDIT
All grades earned at a regionally accredited college or university in transfer courses that are normally a part of a baccalaureate degree program are shown on the student’s permanent record. Credits earned in courses transferred with “D” grades will count toward the credits required for the baccalaureate degree; however, the department or college offering the major determines whether courses with “D” grades in the major may satisfy requirements in the major field.

No credit will be awarded for college-level GED (General Education Development) tests, for courses given without a grade, or for courses carrying grades but not credit hours.

Military Service School Courses
Completed military service school courses may be evaluated on the basis of the recommendations of the American Council of Education (A.C.E.) 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.

General Education Credits Transfer
Transfer students from Florida public community colleges or universities may satisfy the General Education Program requirements of UCF by completing the general education program prescribed by the previous community college or university. Transfer applicants with incomplete general education programs from state institutions will have their credits evaluated on a course-by-course basis.

Grade Forgiveness Transfer
UCF honors grade forgiveness if part of an A.A. degree from a Florida public community college or university, with the exception of courses taken previously at UCF.

Credits from Private and Out-of-State Institutions
The credits of transfer applicants from private junior and senior colleges and out-of-state institutions will be evaluated on a course-by-course basis. Each student must submit the necessary petition(s) to the appropriate office(s) to determine which courses will transfer with regard to degree progress at UCF. Transfer courses which meet the requirements of the General Education Program and the Gordon Rule are determined through the process described in this catalog under “University Degree Requirements.” Each College has different petition procedures, but generally the petitioning of transfer courses for satisfaction of college and major requirements 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.

Credits from a Previous Baccalaureate Degree
Graduates from other accredited four-year U.S. institutions who apply for admission to work toward a second undergraduate degree must meet the regular requirements of the University (as defined in the “Undergraduate Degree Requirements” section of this catalog). A baccalaureate degree or higher from another accredited four-year U.S. institution satisfies the General Education Program requirements and also provides exemption from the foreign language requirements for admission and graduation.
ACCREDITED INSTITUTIONS

For the purposes of this catalog "Accredited Institutions" means those institutions accredited by any of the following six regional associations:

- 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.

Foreign institutions are evaluated through World Education Services, Inc.

COLLEGE PREPARATORY INSTRUCTION

State statutes require that new students be evaluated in terms of their potential to successfully complete required coursework at the University. Those students who are identified as likely to have difficulty in the areas of mathematics, writing, or reading may be required to take college preparatory courses prior to enrollment in college-level courses in those areas. State law provides that students must begin any required preparatory instruction during their first 12 semester hours and finish all such coursework within 3 semesters. New students will be notified of the need to take placement examinations during orientation, or of coursework that will be required.

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" section of this catalog, and graduate applicants to the graduate catalog. In addition, the following is required for admission:

1. International student applications and records required for admission must meet all applicant deadlines.
2. Only those students with an Associate of Arts degree from a Florida public community college, or those who have completed their general education requirements (as defined in the Articulation Agreement), or those students with superior academic records (i.e., upper 20th percentile or U.S. "B" average equivalent) will be considered for admission. Students who have attended any foreign institution(s) must provide an official course-by-course evaluation from World Education Services, Inc. (Evaluation applications may be obtained from the Admissions Office or by writing WES, P.O. Box 745, Old Chelsea Station, New York, NY 10011.)
3. All applicants whose native language is not English must submit an official score report from the Test of English as a Foreign Language (TOEFL). Undergraduates who have not earned an Associate of Arts degree, nor completed their general education requirements (as defined in the Articulation Agreement) from a Florida public community college must have a minimum TOEFL score of 550. Graduate applicants should consult the coordinator of their respective program to determine minimum TOEFL scores as well as any other additional requirements.
4. All students who have earned fewer than 60 semester hours of college credit must also submit an official SAT or ACT score in order to be considered for admission.
5. Applicants must file a Confidential Financial Statement confirming availability of finances for each year of study.

The Admissions Office may require additional documents and/or transcripts before an admissions decision is made.

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 4 weeks (first 20 class days) to furnish all required records. Records indicating ineligibility may result in cancellation of the student's registration.
TRANSIENT STUDENTS

Students in good standing with a 2.0 overall academic average in any accredited college or university who wish to enroll for one term at UCF may be considered for admission as transient students. 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 with a minimum "C" (2.0) grade point average and an official transcript are required to support the application for admission.

AUDIT STUDENTS

To audit a class, a student must file a regular application and be accepted as a degree-seeking or non degree-seeking student, obtain an audit application at the records counter, and take it to the instructor for his/her signature of approval. Requests to audit a class will be processed the first working day following the add/drop period and will be approved on a space-available basis. Finance and Accounting will bill students for audit classes separately from credit classes. Students registering for credit during regular or late registration, or during add/drop may not change to audit status, but must remain in the course or withdraw through normal withdrawal procedures.

NON DEGREE-SEEKING STUDENTS

This classification allows qualified students to enroll in selected courses at the University without fully satisfying requirements for admission to degree-seeking status. Successful completion of courses while in this classification does not necessarily provide a basis for regular admission at a later date. Non degree-seeking status is granted in exceptional cases only, and will usually be reviewed by the Admissions and Standards Committee.

The following regulations will apply to non degree-seeking students:

1. Students are required to provide evidence of their educational qualifications for attending classes in order to meet the intent of this enrollment classification.
2. Non degree-seeking students are subject to the same rules and regulations as degree-seeking students.
3. Registration is permitted on a space-available basis. Students should consult the registration calendar in the Schedule of Classes or contact the Admissions Office for the appropriate registration time.
4. A maximum of 15 undergraduate baccalaureate semester hours earned as a non degree-seeking student may be applied toward a degree if a non degree-seeking student is later accepted as a baccalaureate student.
5. An applicant who has been denied admission or who has been disqualified or excluded may not register as a non degree-seeking student.
6. International students may not register as non degree-seeking since immigration regulations prevent foreign nationals from enrolling without admission to a degree or certificate program.

SENIOR CITIZENS

Senior citizens who are Florida residents and who are 60 years old or over may enroll as audit students by completing a specially-marked non degree-seeking student form at the Admissions Office. A Florida Residency Affidavit will be required in order to establish Florida residency. A completed Student Health History must be filed prior to registration.
# FINANCIAL INFORMATION

## 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. Fees are affected by residency status. Information on residency is contained in the “Admission” section of this catalog.

All University fees must be paid at or before the end of the add/drop registration period. Failure to pay fees on or before due date will result in cancellation of the current registration.

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

### General Fees and Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Florida Resident</th>
<th>Non-Florida Resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Application fee</td>
<td>$33.03 per hour</td>
<td>$115.98 per hour</td>
</tr>
<tr>
<td>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).</td>
<td>$33.72 per hour</td>
<td>$120.87 per hour</td>
</tr>
<tr>
<td>C. Room and Board (Several optional Food Service Plans are available)- per semester</td>
<td>$1,149.00-$1,428.00</td>
<td>$1,149.00-$1,428.00</td>
</tr>
<tr>
<td>D. Books and supplies (estimated) per semester</td>
<td>$150.00</td>
<td>$150.00</td>
</tr>
<tr>
<td>E. Late Registration Fee--not refundable</td>
<td>$25.00</td>
<td>$25.00</td>
</tr>
<tr>
<td>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</td>
<td>$13.00</td>
<td>$13.00</td>
</tr>
<tr>
<td>G. 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.</td>
<td>$26.00</td>
<td>$26.00</td>
</tr>
<tr>
<td>H. Intern Participation Holder</td>
<td>$20.00</td>
<td>$20.00</td>
</tr>
<tr>
<td>I. I.D. Card replacement</td>
<td>$3.76/hr.</td>
<td>$3.76/hr.</td>
</tr>
<tr>
<td>J. Athletic Fee—per semester (Fall &amp; Spring semesters only)</td>
<td>$16.00</td>
<td>$16.00</td>
</tr>
<tr>
<td>K. Scientific Laboratory fees—fee per student on specific course(s)</td>
<td>$2.00 - $15.00</td>
<td>$2.00 - $15.00</td>
</tr>
</tbody>
</table>
FLORIDA RESIDENCE

To qualify as a Florida Resident for tuition purposes, a student must:

Be a U.S. Citizen, Resident Alien, Parolee, Cuban National, Vietnamese Refugee, or other refugee or asylee so designated by the U.S. Immigration and Naturalization Service, AND

Have established a legal residence in this state and maintained that legal residence for 12 months immediately prior to the term in which he is seeking Florida resident classification. The student residence in Florida must be as a bona fide domiciliary rather than for the purpose of maintaining a mere temporary residence or abode incidental to enrollment in an institution of higher education, and should be demonstrated as indicated below (for dependent students, as defined by IRS regulations, a parent or guardian must qualify), AND

Submit the following documentation (or in the case of a dependent student, the parent must submit documentation) prior to the last day of registration for the term for which resident status is sought:

1. Documentation establishing legal residence in Florida (this document must be dated at least one year prior to the first day of classes of the term for which resident status is sought). The following documents will be considered in determining legal residence:
   A. Declaration of Domicile.
   B. Proof of purchase of a home in Florida which the student occupies as his residence.
   C. Proof that he has maintained residence in the state for the preceding year (e.g., rent receipts, employment records).
2. Documentation establishing bona fide domicile in Florida which is not temporary or merely incidental to enrollment in a Florida institution of higher education. The following documents will be considered evidence of domicile even though no one of these criteria, if taken alone, will be considered as conclusive evidence of domicile:
   A. Declaration of Domicile.
   B. Florida voter registration.
   C. Florida vehicle registration.
   D. Florida driver license.
   E. Proof of real property ownership in Florida (e.g., deed, tax receipts).
   F. A letter on company letterhead from an employer verifying permanent employment in Florida for the 12 consecutive months before classes begin.
   G. Proof of membership in or affiliation with community or state organizations or significant connections to the State.
   H. Proof of former domicile in Florida and maintenance of significant connections while absent.
   I. Proof of reliance upon Florida sources of support.
   J. Proof of admission to a licensed practicing profession in Florida.
   K. Any other factors peculiar to the individual which tend to establish the necessary intent to make Florida a permanent home and that the individual is a bona fide Florida resident, including the age and general circumstances of the individual.
3. No contrary evidence establishing residence elsewhere.
4. Documentation of dependent/independent status (notarized copy of most recent IRS tax return).

OR

Become a legal resident and be married to a person who has been a legal resident for the required 12-month period,

OR

Be a member of the Armed Forces on active duty stationed in Florida, or a spouse or dependent,

OR

Be a member of the full-time instructional or administrative staff of a state public school, community college or university in Florida, a spouse or dependent,

OR

Be a dependent and have lived five years with an adult relative who has established legal residence in Florida,
AND

File a notarized residence affidavit with the Admissions Office.

The Admissions Office reserves the right to require additional documentation as seen necessary to accurately determine the residence status of any student.

FINANCIAL AID OFFICE
AD 120, Phone (407) 275-2827

OFFICE HOURS
9:00 a.m. to 7:00 p.m. Mon.-Thurs.
9:00 a.m. - 5:00 p.m. Friday

Determining Eligibility for Financial Aid

The Financial Aid Office encourages all students to apply for financial aid and to begin the process early. There are many grant, loan, and employment programs available (these programs are discussed below). Almost all programs require the determination of financial need.

Eligibility for most programs is calculated by a nationally standardized formula: the cost of education minus expected family contribution equals financial need.

Financial Aid Application Procedures

To apply for financial aid, a student must be a citizen or permanent resident of the United States, the Mariana Islands, or the Pacific Trust Territories. Students can apply for financial aid at any time. Pell Grants and Guaranteed Student Loans are available year-round. To be considered for all of UCF’s financial aid programs, the application process must be completed by March 15. Students should complete the following steps:

1) Complete a need analysis. UCF requests that students use the ACT Family Financial Statement* and makes this form available after January 1. Completing the need analysis involves several steps and can take four to six weeks, so it is important to file the need analysis well before the deadline date or the beginning of the term for which aid is needed.

2) Fill out a UCF Financial Aid Application.

3) Request a Financial Aid Transcript from each post-secondary school previously attended whether or not financial aid was received.

4) Respond to all requests for additional information and documentation. Students may request assistance from the Financial Aid Office by letter, by phone, or in person.

*A CSS need analysis will also be accepted.

Financial Aid Programs

Grants

Pell Grants: largest grant program available to needy undergraduates; minimum six credit hours enrollment required.

Supplemental Educational Opportunity Grants (SEOG): awards made to full-time students in UCF's highest-need category.

Florida Student Assistance Grants (FSAG): Two years Florida residency and minimum 12 credit hours enrollment required; grants determined by the State and based on high need and early application filing.

Loans

Perkins Loans (formerly NDSL's): long-term loans at five percent interest to high-need students.

Guaranteed Student Loans (GSL): long-term loans presently made at eight percent interest to students enrolled at least half-time at UCF.

Student Employment

College Work-Study: on-campus jobs authorized as part of students' financial aid packages according to their financial need; 12 hours minimum enrollment required.

Florida College Career Work Experience Program (FCCWEP): off-campus jobs related to educational pursuits can be arranged at the request of eligible students who can demonstrate need; two-year Florida residency and half-time enrollment required.
Financial Aid for Graduate Students

Graduate students are eligible to be considered for Perkins Loans, Guaranteed Student Loans, and the College Work-Study Program. The application procedures outlined above are required. Each college offers various graduate student assistantships and out-of-state Tuition Waivers. In addition, selected scholarships are available to graduate students.

Award Notice and Disbursement Procedures

Eligible students will be mailed an Award Notice which details the types and amounts of aid they are being offered at UCF. Students are allowed 15 days from receipt of their notices to accept or reject any or all of their awards.

Actual disbursements are not made until at least two weeks after classes begin for the term(s) awarded. Once enrollment has been confirmed, UCF's computer system automatically makes full deferments for students whose eligible awards equal or exceed their fee assessments. A partial deferment is entered for students whose eligible awards total an amount less than their assessments; such students are liable for payment of the difference by the fee payment deadline date.

A minimum of six hours enrollment at UCF is required for automatic deferment. Students who decide to withdraw or to drop classes must go through the add/drop process. Complete instructions are made available during registration.

Legal Requirements

To receive financial aid a student must not be in default or owe any refund on previous financial aid disbursements.

To remain eligible for financial aid a student must reapply yearly and meet the prevailing eligibility criteria. A student must pass the CLAST, the College Level Academic Skills Test required of sophomore and upper-level transfer students by the State of Florida. Students must meet the standards for Satisfactory Academic Progress established for financial aid recipients. These standards are based on GPA, the hours completed per semester, and a maximum time limit within which to obtain a degree. The standards for Satisfactory Academic Progress are available in detail from the Financial Aid Office.

Employment and Loan Programs Not Based on Financial Need

Loans

Parents Loan for Undergraduate Students (PLUS), Supplemental Loans for Students (SLS), parents and independent students may undertake bank loans at a variable interest rate capped at 12%.

UCF Short-Term Loans: available to any currently enrolled students for emergency situations.

Employment

Other Personnel Services (OPS): on-campus employment opportunities.

Cooperative Education Jobs: off-campus employment offered to full-time, degree-seeking students.

Scholarships

UCF offers many scholarships to students who have demonstrated outstanding academic achievement. Many other scholarships are offered through the University and private organizations to students meeting specific eligibility criteria; most are based upon the student's ethnic background, county of residence, gender, or area of study. UCF has established a SCHOLARSHIP REFERENCE FILE housed at the Circulation Desk of the Orlando campus library that lists over 100 scholarship programs available to UCF students. (Other scholarship reference books are also available at the Circulation Desk.) Students may also refer to the Financial Aid and Scholarship Guide published by UCF's Financial Aid Office.

TUITION FEE WAIVERS FOR STATE OF FLORIDA EMPLOYEES

State employees, faculty, and staff who utilize a tuition fee waiver for coursework without payment of the registration fees must register on the day and time provided by the Registrar. Employees who register prior to the prescribed time and date will have an invalid fee waiver, and will be liable for all applicable fees on courses enrolled. The employee is held responsible to register only on a space-available basis, and only during the prescribed
times indicated by the Registrar. In addition, the tuition fee waiver can not be used for courses involving increased costs (such courses as Thesis, Dissertation, and Directed Individual Study).

TUITION FEE WAIVERS FOR SENIOR CITIZENS

Persons 60 years of age or older who meet Florida residency requirements may register for credit classes without payment of application fee, registration fee, and health fee. The senior citizen is held responsible, however, to register only on a space-available basis, and only during the last hour of the add/drop registration period prescribed by the Registrar. No academic credit shall be awarded for completed courses, and the waiver can not be used for courses which involve increased costs. These courses would include, but not be limited to Thesis, Dissertation, and Directed Individual Study.

APPEALS

Students who have been denied fee deferment, refund, or waiver may make their appeal to the "Committee for Resolving Fee Payment Questions" by initiating a student petition (Form 41-561) which can be obtained from the Office of Undergraduate Studies, Student Affairs, University Cashier, or Student Accounts Section of Finance and Accounting. Students must then submit their petitions to Student Accounts, Room 112, Administration Building, and may appear (not mandatory) before the committee which meets once each week. Time, date, and place are subject to change.

REFUND OF FEES

A refund of fees, or reduction in fee liability for those students who have an authorized deferment, will be made under certain conditions upon presentation at the Student Accounts Office of a Certification of Withdrawal issued by the Registrar. No refund or reduction in fee liability will be made under this policy except upon proper application.

1. A FULL REFUND will be made when:  
   A. Withdrawal is made before the end of the add/drop period. Summer refunds will not be made until after Term B Registration and add/drop, except by written application to Student Accounts, Room 112 Administration Building.  
   B. The course is cancelled by the University, or  
   C. A student is denied admission to an offered course by the University for any reason.  

2. A partial refund (25 percent of the total fees paid, less building and capital improvement fees) will be made when complete withdrawal from the University is made prior to the end of the fourth week of classes, during a 16 (or 17) - week semester or at the end of the first quarter of classes during a mini-semester or summer semester (rounded to the end of the week in which the first quarter occurs).

3. Refunds up to 100 percent of tuition and registration fees will be made upon withdrawal from one or more courses when exceptional circumstances, as determined by the University, exist. Exceptional circumstances include, but are not limited to sickness, death, involuntary call to military service, and administrative errors created by the University.

PAST-DUE ACCOUNTS

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.

CHECKS

The University cashier will accept personal checks for accounts due to the University. Students are urged to make their own financial arrangements through their choice of commercial banks. For a nominal fee the University Bookstore will cash personal checks not exceeding $50.00. The University is required to collect a $10.00 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.
ACADEMIC ETHICS
Policy
The faculty of the University of Central Florida is 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:
1. 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 considered as guilty as the student assisted.
2. Plagiarism consisting of the deliberate use and appropriation of another’s work without any indication of the source and the presentation of such work as the student’s own. Any student who fails to give credit for ideas or materials taken from another source is guilty of plagiarism.

Procedure
In cases of cheating or plagiarism the instructor shall take whatever academic action he/she deems appropriate. This action 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.

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

FRESHMAN: Through 29 semester hours.
SOPHOMORE: 30-59 semester hours.
JUNIOR: 60-89 semester hours and have fulfilled CLAST and Gordon Rule requirements.
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.

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 also Veterans’ 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-seeking, transient, and auditor).
TEMPORARY: A student who applied before the deadline and is permitted to register and attend class pending completion of his admission 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. A UCF student may not be enrolled as
a transient student in another institution during the term in which the baccalaureate degree or the Associate of Arts degree is to be awarded.

**NON DEGREE-SEEKING:**

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 disqualification.

**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.

The University reserves the right to establish maximum course loads for students at any level. Course load limitations will be published in the term Class Schedule and made available prior to the beginning of the term.

**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:

**Grades**

- 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
WP—Withdrawn Passing ..................................... 0 grade point
WF—Withdrawn Failing ...................................... 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, WP, and I grades. The grade point average for graduation requirement is 2.0 ("C") and will be computed on both the student's total academic program and the UCF program.

A request for grade change will be considered only during the term immediately following the one in which the grade was assigned, an exception being that grades assigned during the spring semester may be changed during either the following summer or fall terms. Academic Actions do not change when an incomplete grade is completed nor when a course is repeated.

ACADEMIC STANDING

All Academic Actions are shown on grade reports and transcripts. The action is generated due to course completion. Changing a course grade does not necessarily change academic action. An exception can be made when an error is committed and is so stated on the Change of Grade request form by the professor.

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 Warning
Some first-time-in-college applicants who do not meet University admission requirements may be admitted on Academic Warning. By obtaining a 2.0 GPA ("C" average) or better at the end of the first semester of attendance, Academic Warning will be removed. Earning less than a "C" average the first term will result in Academic Probation. A student may be on Academic Warning only once.

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

Disqualified (First Suspension)
A student on Academic Probation is disqualified upon failure 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 submit an application for readmission supported by a letter indicating the reasons for previous academic difficulties and plans for achieving a GPA of 2.0 or better. The total record will be reviewed and action on readmission will be taken by the Director of Admissions. When the Director of Admissions can not make a favorable decision, cases will be referred to the Admissions and Standards Committee.

Exclusion (Second Suspension)
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.
Readmission

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

First-time-in-college students may be admitted on Academic Warning (see above) or Academic Probation at the discretion of the Admissions Office or the Admissions and Standards Committee. Transfer students may be admitted on Academic Probation at the discretion of the Admissions Office or the Admissions and Standards Committee. Academic Probation is intended to inform the student making unsatisfactory progress of his/her 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 who subsequently receives an A.A. degree with a "C" average (2.0 GPA) on all college work attempted from a Florida public community college may be readmitted to the University with credit earned 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.

INCOMPLETE GRADE

A grade of "I" (incomplete) is assigned by the instructor when a student is unable to complete a course due to extenuating circumstances, and when all requirements can be completed in a short time following the end of the term. The student is responsible to arrange with the instructor for the replacement of the incomplete grade by the deadline published in the Academic Calendar for the next term. If the incomplete is not changed by the established deadline, it may become a part of the student's permanent record with no credit given for the class, or the instructor may assign a grade of "F." An "I" cannot be removed by Grade Forgiveness. Academic actions are not affected by the removal of an "I."

INSTRUCTORS PLEASE NOTE: A grade is assigned using the Change of Grade Form. After the form is signed by the Dean of the College offering the course, the Dean sends it to the Registrar's Office.

SCHEDULE CHANGES--ADD/DROP POLICY

Add: A student may add a course during the official add/drop period (the first three to five days of each term, as listed in the academic calendar). After the add/drop period, no course may be added.

Drop: A student may drop a course during the official add/drop period. The fact that the student was enrolled in a class so dropped will not appear on the permanent record. For withdrawal after the add/drop period, the Withdrawal Policy must be consulted.

WITHDRAWAL POLICY

A student may withdraw from a class and receive the notation of "W" until the end of the eighth week of any regular semester or until the midpoint of any summer term by completing a Course Withdrawal form available in the Office of Records and Registration, first floor of the Administration Building.

A student is never automatically withdrawn from a class for not attending, nor can an instructor withdraw a student from a class. Upon request, however, the instructor will provide the student with an assessment of the student's performance in the course prior to the last day of withdrawal.

No withdrawal is permitted after the deadline except in extraordinary circumstances such as serious medical problems. Unsatisfactory academic performance is not an acceptable reason for withdrawal after the deadline. Students who need to petition for a late withdrawal should consult the Office of Undergraduate Studies, Administration Building, Room 210. At the time of the request an Assistant Dean from the Office of Undergraduate Studies will ascertain from the instructor whether the student was passing or failing the course. If the student was passing, a "WP" will be recorded on the student's permanent record; if failing, a "WF" will be entered.
Students who seek a late withdrawal from class on medical grounds must apply for the withdrawal no later than that term following the one from which the withdrawal is sought. Students seeking a late withdrawal because of medical conditions must follow the medical withdrawal procedure. The student's physician provides the university physician with the appropriate medical information, using the forms available in the Office of Undergraduate Studies. The university physician evaluates this information and forwards a recommendation to Undergraduate Studies.

If a medical withdrawal is approved, a “W” will be recorded for each course.

If a medical withdrawal is not approved, the request may be approved as a late withdrawal, and grades of “WP” or “WF” should be recorded. A grade of “WF” will affect the calculation of the student's grade point average (the procedure used for calculating is further defined in the paragraph titled “Grading System” earlier in this section).

If a student withdraws from a course while an alleged academically dishonest act is under consideration, and the case is not subsequently resolved in favor of the student, the University reserves the right to assign the appropriate grade for the course.

TRANSIENT ENROLLMENT AT OTHER INSTITUTIONS

A UCF degree-seeking student who wishes to earn credit at another college or university for transfer back into a degree program must obtain prior approval for specific courses from the Dean or Department Chair of his respective college. Approval of courses for the General Education Program should be obtained from the Office of Undergraduate Studies. Credit earned without this transient approval may not be accepted. A student may not be enrolled as a transient student in another institution during the term in which the baccalaureate degree or the Associate of Arts degree is to be awarded. Transient forms are available in the Records Office. Transient credit can not be used to reduce the last 30 semester hour residency requirement or be considered as continuous enrollment.

GRADE FORGIVENESS

Policy

Limits: Grade forgiveness is limited to two courses.

Grade forgiveness can be used only for courses taken at UCF or transferred as part of an Associate of Arts degree from a Florida public college. Grade forgiveness is not retroactive, and therefore may not be used for a course repeated before Fall 1981.

UCF does not honor grade forgiveness granted at other institutions unless it is part of an Associate of Arts degree transferred to UCF from a Florida public community college or university.

A course taken at UCF may not be repeated at another institution for forgiveness by UCF. Grade forgiveness may not be used twice for the same course.

Because of the two-course limit, a student who has used grade forgiveness twice at another institution, and has included those courses in the transfer of an Associate of Arts degree may not use grade forgiveness again at UCF.

Exception: If a student who repeated a course at UCF before Fall 1981 did not use the previous forgiveness policy and wishes to repeat the course again to take advantage of the forgiveness policy, he may do so. In this case, the lower of the previous two grades will be forgiven. This special circumstance is the only one in which a student will be allowed to repeat a course more than once.

General Policy: All grades will remain on the student's official transcript. The original course grade will be marked with a “T” to indicate that the course has subsequently been repeated, and the repeat course grade will be marked with an “R.” The original grade will not be computed in the grade point average except in a case in which the student withdraws from a course he is repeating or takes a grade of incomplete.

With prior approval of the dean of the college in which the course is offered, the student may substitute a course different from the original one if (1) the substitute course has been changed in prefix, number, hours, or title, but not in substance, or (2) the substitute course replaces a course no longer offered by UCF.

Grade forgiveness awarded for repeated courses will not retroactively alter any previous academic action. For example, a Probation or Disqualification status will not be removed from the records of the quarter or semester in which the student originally took the course. In addition, no academic records can be altered after a student graduates.
If it is determined that the student is ineligible for the forgiveness policy, neither a refund of fees nor automatic withdrawal from the course will be made.

**Procedure**

Students who wish to exercise Grade Forgiveness must complete the following steps before registering to repeat a course:

1. Complete a "Grade Forgiveness Request Form" from the Office of Records and Registration for each course to be repeated.
2. If the course is a substitution for the original one (see above), secure the signature of the dean of the college in which the course is offered.
3. Turn the completed form in to the Office of Records and Registration no later than the last day of add/drop. No petitions will be accepted after the deadline.

Any questions about Grade Forgiveness should be directed to the Office of Undergraduate Studies, Extension 2691.

**ACADEMIC HONORS**

1. President’s Honor Roll Certificate
   
   The President’s Honor Roll Certificate is awarded in recognition of scholastic honors to regular undergraduate students who register for and complete 12 or more hours, excluding pass-fail coursework, and maintain a 4.0 GPA with no incomplete or "U" grades for the given term or who complete 15 semester hours during any 2 consecutive terms at UCF with no more than 11 hours in any one term, excluding pass-fail work, and maintain a 4.0 GPA for the 2 terms.
   
   Hours utilized in the awarding of a President’s Honor Roll Certificate may not be utilized in the determination of a subsequent certificate.

2. Dean’s List
   
   The Dean’s List is compiled in recognition of scholastic honors for students who register for and complete at least 12 semester hours with a 3.4 GPA and no grade less than "C" and no incomplete or "U" grades during a term.

3. Baccalaureate Honors
   
   The University shall confer baccalaureate honors recognition on those students who have completed a minimum of 48 semester hours at UCF and who:
   
   A. 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
   
   B. Attain at least a 3.0 overall grade point average
   
   C. Honors awarded will be

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

   Since records for the semester of graduation are incomplete at the time of graduation, that term is excluded in determining recognition in the commencement bulletin and at graduation. Identification of these students at graduation is therefore presumptive of honors and not conclusive since final term grades may result in changes in relative rankings.

**HONORS PROGRAMS**

The Honors Programs at UCF afford outstanding students the opportunity to participate in challenging instruction and study. Graduation with University Honors is available to those students who complete 24 hours of honors coursework in the General Education Program and fulfill requirements for honors in their major. Transfer and other students who have completed general education requirements may participate in Departmental Honors through the completion of departmental honors requirements, including an original research project. Students who successfully complete either University or departmental honors will have that fact stated on their transcripts. Information on admission to the honors programs and honors programs requirements may be obtained from Dr. Mark Stern, Interim Director, Honors Program, FA 415 (407) 275-2083.

**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 (AP), and University Course Credit by Examination.
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 their junior year in high school. To be considered for Fall Semester Early Admission, applicants must have:

1. Superior test scores (SAT 1100 or above, ACT 27 or above).
2. "A" or "B" grades in high school.
3. A recommendation from the student's high school counselor.
4. A letter of permission from parents or guardian.
5. A campus interview to ascertain the student's maturity and ability to adjust to collegiate responsibilities.

Qualified students may enroll dually 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.

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.

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 of 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) is not within 60 semester hours of graduation, (b) has not previously received comparable college course credit in the CLEP examination area, (c) does not receive comparable college credit in the CLEP examination area in the same semester the examination is taken or in a subsequent semester, (d) has not previously completed nor received credit by UCF (transfer or otherwise) in a more advanced course in the examination area, and (e) does not complete nor receive credit by UCF (transfer or otherwise) in a more advanced course during the semester in which the CLEP examination is taken.

2. Partial credit may be awarded in Humanities and Social Science-History general examinations to students who have course duplication in one subtest area but not in the other subtest area. For example, a student who has completed Humanities but has not completed Introductory Literature or a more advanced literature course 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 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, and the minimum qualifying score. A table is also provided which contains information about CLEP subject examinations. The table delineates CLEP subject examinations which are available, qualifying scores for each examination, the UCF course for which each examination can substitute, and semester hours which will be awarded.

It is important to note that a maximum of 45 semester hours in any combination of extension, correspondence, CLEP, Armed Forces Service School Credits, and University Credit by Examination will be accepted by the University for application toward an undergraduate degree. In addition, CLEP credit can not be used to reduce a grade point deficiency. For example, CLEP can not be substituted for a grade awarded for a previously completed course. CLEP may not be used to fulfill the senior institution requirement.

CLEP GENERAL EXAMINATIONS

Qualifying scores on CLEP General Examinations earn only general (lower division) elective credit.

<table>
<thead>
<tr>
<th>CLEP General Examination</th>
<th>Qualifying Score</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition with Essay*</td>
<td>500</td>
<td>6</td>
</tr>
<tr>
<td>Humanities</td>
<td>489</td>
<td>6</td>
</tr>
</tbody>
</table>
Mathematics 497 6  
Natural Science  
Biological Science 50 3  
Physical Science 49 3  
Social Science 488 6  

*The General Examination in English Composition with Essay is not given in July or August.

### CLEP SUBJECT EXAMINATIONS

<table>
<thead>
<tr>
<th>CLEP Subject Exam</th>
<th>Semester Hours</th>
<th>Qualifying Score</th>
<th>UCF Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Government</td>
<td>3</td>
<td>50</td>
<td>POS 2041</td>
</tr>
<tr>
<td>American History I***</td>
<td>3</td>
<td>49</td>
<td>AMH 2010</td>
</tr>
<tr>
<td>American History II***</td>
<td>3</td>
<td>49</td>
<td>AMH 2020</td>
</tr>
<tr>
<td>American Literature***</td>
<td>6</td>
<td>50</td>
<td>AML 2011 and AML 3020</td>
</tr>
<tr>
<td>Analysis and Interp. Lit.***</td>
<td>6</td>
<td>51</td>
<td>ENC 1101 and LIT 3000</td>
</tr>
<tr>
<td>Calculus w/Elem. Functions</td>
<td>6</td>
<td>49</td>
<td>MAC 3311 and 3312 or MAC 3253 and 3254</td>
</tr>
<tr>
<td>Clinical Chemistry**</td>
<td>6.7</td>
<td>50</td>
<td>MLS 4630</td>
</tr>
<tr>
<td>College Algebra</td>
<td>3</td>
<td>48</td>
<td>MAC 1104</td>
</tr>
<tr>
<td>College Algebra &amp; Trig</td>
<td>3</td>
<td>50</td>
<td>MAC 1104 or MAC 1114</td>
</tr>
<tr>
<td>College Comp. w/Essay</td>
<td>6</td>
<td>50</td>
<td>ENC 1101 and ENC 1102</td>
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<tr>
<td>Computer &amp; Data Proc.</td>
<td>3</td>
<td>49</td>
<td>CGS 1060</td>
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<tr>
<td>Educ. Psychology</td>
<td>3</td>
<td>49</td>
<td>None</td>
</tr>
<tr>
<td>Eng. Literature***</td>
<td>6</td>
<td>49</td>
<td>ENL 2010 or ENL 3021</td>
</tr>
<tr>
<td>Freshman Eng. w/Essay***</td>
<td>6</td>
<td>51</td>
<td>ENC 1101 and ENC 1102</td>
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<tr>
<td>General Biology</td>
<td>6</td>
<td>49</td>
<td>BSC 1020</td>
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<td>General Chemistry</td>
<td>6</td>
<td>50</td>
<td>CHM 1020 and 1032 or CHS 1440</td>
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<td>General Psychology</td>
<td>3</td>
<td>50</td>
<td>PSY 2013</td>
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<tr>
<td>Hematology**</td>
<td>6.7</td>
<td>51</td>
<td>MLS 3305</td>
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<td>Human Growth and Devel.</td>
<td>3</td>
<td>51</td>
<td>None</td>
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<td>Immunohematology**</td>
<td>6.7</td>
<td>50</td>
<td>MLS 4550</td>
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<td>Intro. Accounting</td>
<td>6</td>
<td>50</td>
<td>ACG 2001 and 2011 or ACG 3023</td>
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<td>Intro. Business Law</td>
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<td>BUL 3111</td>
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<td>Intro. Management</td>
<td>3</td>
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<td>None</td>
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<tr>
<td>Intro. Microeconomics</td>
<td>3</td>
<td>50</td>
<td>ECO 2013</td>
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<td>Intro. Macroeconomics</td>
<td>3</td>
<td>50</td>
<td>ECO 2023</td>
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<tr>
<td>Intro. Marketing</td>
<td>3</td>
<td>50</td>
<td>MAR 3023</td>
</tr>
<tr>
<td>Intro. Sociology</td>
<td>6</td>
<td>50</td>
<td>SYG 2000</td>
</tr>
<tr>
<td>Languages: French</td>
<td>6/9/12</td>
<td>44/49/56</td>
<td>Corresponding</td>
</tr>
<tr>
<td>German</td>
<td>6/9/12</td>
<td>43/52/55</td>
<td>1120 and 1121, 2200* and 2201*, 2230 and 2231* language courses</td>
</tr>
<tr>
<td>Spanish</td>
<td>6/9/12</td>
<td>45/48/55</td>
<td></td>
</tr>
<tr>
<td>Microbiology (Clinical)**</td>
<td>6</td>
<td>49</td>
<td>MLS 4405</td>
</tr>
<tr>
<td>Programming - Fortran IV</td>
<td>3</td>
<td>48</td>
<td>COP 1200</td>
</tr>
<tr>
<td>(Duplicate CLEP Exam - Subj: Comp. and Data Proc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trigonometry</td>
<td>3</td>
<td>54</td>
<td>MAC 1114</td>
</tr>
<tr>
<td>(Duplicate CLEP Exam - Subj: College Alg &amp; Trig)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
* Those students receiving six or nine hours are allowed to complete these courses.
** Each student must also satisfactorily complete a lab and an essay exam. Both exams will be given by the College of Health.
***Satisfactory completion of these exams does not reduce the 24,000 word requirement of the Gordon Rule.

### Advanced Placement Program (AP)

Students who have participated in the Advanced Placement Program in high school and received a score of three, four, or five on the national examinations will receive college credit in the appropriate subject areas. Students should consult their high school guidance counselor or write to the Educational Testing Service, Princeton, New Jersey 08540, for additional information.

<table>
<thead>
<tr>
<th>Examination</th>
<th>Passing Scores</th>
<th>Semester Hours Awarded</th>
<th>UCF Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology*</td>
<td>3-4</td>
<td>3</td>
<td>BSC 1020</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td>BSC 1020 + 3 hours general elective</td>
</tr>
<tr>
<td>Chemistry*</td>
<td>3</td>
<td>3</td>
<td>CHM 2045</td>
</tr>
<tr>
<td></td>
<td>4-5</td>
<td>7</td>
<td>CHM 2045 and 2046</td>
</tr>
<tr>
<td>Computer Sci</td>
<td>3-4</td>
<td>3</td>
<td>COP 1200</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td>COP 1200 + 3 hours general elective</td>
</tr>
<tr>
<td>English**</td>
<td>3-4</td>
<td>3</td>
<td>ENC 1101</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td>ENC 1101 + 3 hours general elective</td>
</tr>
<tr>
<td>English Lit**</td>
<td>3-4</td>
<td>3</td>
<td>ENL 2010</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td>ENL 2010 + 3 hours general elective</td>
</tr>
<tr>
<td>French</td>
<td>3-4</td>
<td>3</td>
<td>FRE 1120</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td>FRE 1120 + 3 hours general elective</td>
</tr>
<tr>
<td>German</td>
<td>3-4</td>
<td>3</td>
<td>GER 1120</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td>GER 1120 + 3 hours general elective</td>
</tr>
<tr>
<td>History (AM)**</td>
<td>3-4</td>
<td>3</td>
<td>AMH 2010</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td>AMH 2010 + 3 hours general elective</td>
</tr>
<tr>
<td>History (EUR)**</td>
<td>3-4</td>
<td>3</td>
<td>EUH 2001</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td>EUH 2001 + 3 hours general elective</td>
</tr>
<tr>
<td>Latin</td>
<td>3-4</td>
<td>3</td>
<td>LAT 1120</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td>LAT 1120 + 3 hours general elective</td>
</tr>
<tr>
<td>Math—Cal AB</td>
<td>3-5</td>
<td>4</td>
<td>MAC 3311</td>
</tr>
<tr>
<td>Math—Cal BC</td>
<td>3-5</td>
<td>4</td>
<td>MAC 3312</td>
</tr>
<tr>
<td>Music—List &amp; Lit</td>
<td>3-4</td>
<td>3</td>
<td>MUL 2010</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td>MUL 2010 + 3 hours general elective</td>
</tr>
<tr>
<td>Music Theory</td>
<td>3-4</td>
<td>2</td>
<td>MUT 2111</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
<td>MUT 2111 + 3 hours general elective</td>
</tr>
<tr>
<td>Physics B*</td>
<td>3</td>
<td>3</td>
<td>PSC 1512</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>5</td>
<td>PHY 2053</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
<td>PHY 2053 and PHY 2054</td>
</tr>
<tr>
<td>Physics C* (Mechanics)</td>
<td>3</td>
<td>3</td>
<td>PHY 2053</td>
</tr>
<tr>
<td></td>
<td>4 or 5</td>
<td>3</td>
<td>PHY 3048</td>
</tr>
<tr>
<td>Course</td>
<td>Credits</td>
<td>Units</td>
<td>Code</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>---------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>Physics C (Electricity and Magnetism)</td>
<td>3</td>
<td>3</td>
<td>PHY 2054</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PHY 3049</td>
</tr>
<tr>
<td>Spanish</td>
<td>3-4</td>
<td>3</td>
<td>SPN 1120</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SPN 1120 + 3 hours general elective</td>
</tr>
<tr>
<td>Classics</td>
<td>3-4</td>
<td>3</td>
<td>HUM 2211</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HUM 2211 + 3 hours general elective</td>
</tr>
<tr>
<td>History of Art</td>
<td>3-4</td>
<td>3</td>
<td>ARH 2050</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ARH 2050 + 3 hours general elective</td>
</tr>
<tr>
<td>Studio Art</td>
<td>3-5</td>
<td>3-6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>to be assigned by Art Department</td>
</tr>
</tbody>
</table>

* DOES NOT SATISFY GENERAL EDUCATION PROGRAM SCIENCE LABORATORY REQUIREMENT

** MAY BE USED TO SATISFY THREE HOURS OF GORDON RULE COMPOSITION REQUIREMENT

*** DOES NOT SATISFY GORDON RULE COMPOSITION REQUIREMENT

**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 consult their advisor and the chair 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 residency requirement. Credit by examination will 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 chair 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.

*Excludes transient and non degree-seeking students.
UNDERGRADUATE DEGREE REQUIREMENTS

REQUIREMENTS FOR GRADUATION

Students must fulfill both the requirements for a major and University graduation requirements to receive a degree from the University of Central Florida.

To earn a bachelor degree from UCF students must:
- Fulfill the requirements for the chosen major
- Earn a minimum of 120 semester credit hours with at least a "C" average (2.0 GPA, both UCF and overall) for coursework attempted. Some majors require more than 120 hours.
- Earn a minimum of 60 of these 120 semester credit hours from a senior institution (an institution which offers baccalaureate degrees).
- Earn at least 48 of these 120 semester credit hours in 3000-level courses or above.
- Earn the last 30 semester hours in regular courses at UCF. Credit by examination may not be used to satisfy this requirement.
- Earn a minimum of 30 semester hours in residence at UCF.
- Earn a minimum of 60 semester hours after CLEP credit has been awarded.
- Apply no more than 45 semester hours in any combination of extension, correspondence, CLEP, University Credit by Examination, and Armed Forces credits toward an undergraduate degree.
- Fulfill the General Education requirements defined elsewhere in this section.
- Fulfill the Gordon Rule requirements defined elsewhere in this section.
- Fulfill the Foreign Language Proficiency requirement defined elsewhere in this section.
- Fulfill the CLAST requirement defined elsewhere in this section.
- Earn a minimum of nine semester hours during summer terms, if applicable.
- Complete an Intent to Graduate form by the second week of the term of graduation.

CHOICE OF CATALOG

Student's Options

Students have the option of fulfilling requirements for graduation under any single catalog in force during their most recent period of continuous enrollment at UCF. Students may not use a combination of catalogs to fulfill degree requirements.

A student entering UCF during a summer semester may choose the catalog for the preceding academic year or for the subsequent academic year.

A.A. Transfer Student's Options

A.A. transfer students from Florida public community colleges or universities may use the UCF catalog in effect at the time they began their enrollment at the public institution, provided they maintain continuous enrollment, (as defined below) (1) during enrollment at the public institution which awarded the A.A. degree, and (2) during the time period between the awarding of the A.A. degree and enrollment at UCF.

Enrollment at a public college after receiving an A.A. degree does not count toward continuous enrollment.

The above rights also apply to A.S. transfer students from Florida public colleges and universities who have been admitted to the Engineering Technology, Nursing, or Radiologic Sciences programs.

Definition of Continuous Enrollment:

Continuous enrollment is interrupted by non-attendance for either:
- consecutive fall and spring semesters
- consecutive spring, summer, and fall semesters

GENERAL EDUCATION PROGRAM

The General Education Program (GEP) is designed to provide insight into the major areas of knowledge at the University. The GEP further supplies the background for making a more knowledgeable selection of major and elective courses.
Courses which fulfill the General Education requirements are specified, but in some cases an advanced course in the same discipline may be substituted for GEP requirements with the approval of the Office of Undergraduate Studies. Students should consult both with an advisor and with the Office of Undergraduate Studies before substituting any course. Undergraduate students who have not completed requirements for the Associate of Arts degree and who wish to transfer to another Florida public university can have their transcripts stamped GENERAL EDUCATION REQUIREMENTS MET if they have completed UCF’s GEP requirements with a GPA of 2.0 or better. UCF will accept a similar statement on transcripts received from Florida public community colleges and universities in lieu of completion of the University’s General Education Program.

GENERAL EDUCATION PROGRAM COURSES
(40 semester hours required)

A. Communication Foundations ........................................... 9
1. *ENC 1101 English Composition I ................................. 3(3,0)
2. *ENC 1102 English Composition II PR: ENC 1101 ................ 3(3,0)
3. SPC 1014 Fundamentals of Oral Communication ................. 3(3,0)

B. Cultural and Historical Foundations ................................. 9
1. Take one of the following two-semester sequences: .............. 6
   *EUH 2000 Western Civilization I ................................ 3(3,0)
   *EUH 2001 Western Civilization II ................................ 3(3,0)
   or
   *HUM 2211 Western Humanities I ................................ 3(3,0)
   *HUM 2230 Western Humanities II ................................ 3(3,0)
   or
   *AMH 2010 U.S. History: 1492-1877 ............................. 3(3,0)
   *AMH 2020 U.S. History: 1877-present .......................... 3(3,0)
2. Take one course from the following: .............................. 3
   ARH 2050 The History of Art I .................................... 3(3,0)
   ARH 2051 The History of Art II .................................... 3(3,0)
   MUL 2010 Enjoyment of Music .................................... 3(2,1)
   THE 1020 Theatre Survey ....................................... 3(2,1)
   THE 2071 Cinema Survey ...................................... 3(2,2)
REL 2300 World Religion 3(3,0)
PHI 2010 Introduction to Philosophy 3(3,0)
*LIT 2110 World Literature I PR: ENC 1102 3(3,0)
*AML 2011 American Literature I PR: ENC 1102 3(3,0)
*ENL 2010 English Literature I PR: ENC 1102 3(3,0)

C. Mathematical Foundations

Take one course from each group. Some majors require a specific course or a higher level course in this area. Consult your advisor.

1. **MAC 1104 College Algebra 3(3,0)
   **MGF 1203 Finite Mathematics 3(3,0)
2. **CGS 1060 Introduction to Computer Science 3(3,0)
   **STA 2014 Principles of Statistics 3(3,0)

D. Social Foundations

1. ECO 2013 Principles of Economics I 3(3,0)
2. POS 2041 American National Government 3(3,0)
3. Choose one:
   PSY 2013 General Psychology 3(3,0)
   SYG 2000 General Sociology 3(3,0)
   ANT 2003 General Anthropology 3(3,0)

E. Science Foundations

Take one course from each group, one of which must include a laboratory. Some majors require a specific course or a higher level course in this area. Consult your advisor.

1. PSC 1512 Physical Science PR: MAC 1104 or MGF 1203 3(3,0)
   PHY 2053C College Physics PR: MAC 1104 or MGF 1203 4(3,3)
   CHM 1020 Concepts in Chemistry PR: MAC 1104 or MGF 1203 3(3,0)
2. BSC 1020C Biological Principles 4(3,2)
   BSC 1030C Biology and Environment 4(3,2)
   GLY 1030 Geology & Its Applications 3(3,0)
   GEO 1200 Physical Geography 3(3,0)

"A grade of "C" or better in this course satisfies three hours of the Gordon Rule requirement in English composition. In addition, any upper-division course in composition or literature taught by the UCF English Department and selected upper-division courses taught by the UCF History Department also satisfy three hours of the English composition requirement, if the course is completed with a grade of "C" or better. A list appears in "The Gordon Rule" this section.

**A grade of "C" or better satisfies three hours of the Gordon Rule requirement in mathematics. In addition, a grade of "C" or better in any higher level course in mathematics, statistics, or computer science also satisfies three hours of the mathematics requirement.

Substitution of Courses - General Education Program

Students who wish to substitute a course taken elsewhere for a course required in the UCF General Education Program must complete a "Petition to Substitute Courses for the General Education Program." This form may be obtained in college and departmental offices, or from the Office of Undergraduate Studies. Completed petitions must be submitted to and approved by the Office of Undergraduate Studies. The following procedure should be followed:

1. A petition is used for all courses not taken at UCF and for any UCF courses being requested to substitute for stated GEP requirements and which are not on the list of approved substitutions.
2. UCF transcripts or Transfer Summary Reports should accompany all petitions.
3. Course descriptions should accompany all petitioned courses unless the petitioned course has the same prefix and number as the UCF equivalent and was taken at a Florida public community college or university.
4. All petitions for substitution of GEP courses should be sent to Dr. David Dees, Assistant Dean, Undergraduate Studies.
5. Students transferring between UCF colleges are not required to re-petition for GEP requirements.
6. Appeals of decisions regarding substitution of courses for the GEP should be directed to Dr. Charles N. Micarelli, Dean of Undergraduate Studies.

Substitution requests for requirements in a major or minor should be made to the department offering the program of study.
Alternative Courses - General Education Program

Courses which may be taken in substitution for the stated GEP requirements are given below.

<table>
<thead>
<tr>
<th>GEP REQUIREMENTS</th>
<th>ACCEPTABLE SUBSTITUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAC 1104 (College Algebra)</td>
<td>MAC 1114, MAC 3233, MAC 3253, MAC 3254,</td>
</tr>
<tr>
<td></td>
<td>MAC 3311, MAC 3312, MAC 3313</td>
</tr>
<tr>
<td>ECO 2013 (Macro Economics)</td>
<td>Any higher level ECO course which has</td>
</tr>
<tr>
<td></td>
<td>ECO 2013 as a prerequisite.</td>
</tr>
<tr>
<td>PHY 2053C (Physics)</td>
<td>PHY 3048, PHY 3049, PHY 2054C, PHY 3014C,</td>
</tr>
<tr>
<td></td>
<td>PHY 5015, CHM 2045, CHM 1032, CHS 1440</td>
</tr>
<tr>
<td>CHM 1020 (Chemistry)</td>
<td>BSC 2010C</td>
</tr>
<tr>
<td>BSC 1020C or BSC 1030C (Biology)</td>
<td>GEO 3370</td>
</tr>
<tr>
<td>GEO 1200 (Geography)</td>
<td>CGS 3000, CGS 3422, COP 1200, COT 3100</td>
</tr>
<tr>
<td>CGS 1060 (Intro to Computer)</td>
<td>STA 3023, STA 3032</td>
</tr>
<tr>
<td>STA 2014 (Statistics)</td>
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</tr>
</tbody>
</table>

FOREIGN LANGUAGE PROFICIENCY REQUIREMENT

The Foreign Language Proficiency requirement applies to all students seeking their first baccalaureate degree under the 1987-1988 catalog. Students graduating with a Bachelor of Science degree must demonstrate proficiency in a foreign language equivalent to one year of college instruction. Students graduating with a Bachelor of Arts degree must demonstrate proficiency equivalent to two years of college instruction in a single language. This requirement may be met either by successful completion of the appropriate college-level course or by examination. Languages which may be used include those taught at UCF and any others for which the University can obtain standardized proficiency tests.

Important aspects of the requirement are:
1. This requirement is for proficiency and not a requirement for a particular number of hours of coursework. For example, successful completion of only SPN 1121 (Elementary Spanish Language and Civilization II) would satisfy the B.S. requirement. Appropriate scores on Advanced Placement and CLEP examinations will also satisfy the requirement.
2. This is a University-wide requirement for all majors and replaces the previous Enhancement Option section of the General Education Program.
3. The Testing Administrator of the Office of Counseling and Testing will offer the Foreign Language Proficiency Examination periodically in each semester. Students must register in advance with that office to take the examination (AS 203).
4. The foreign language proficiency requirement does not apply to students seeking a second baccalaureate degree.

THE GORDON RULE

The Gordon Rule (State Rule 6A-10.30) applies to students who first enroll in any college or university after October 1982. The rule requires students to complete 24,000 words of composition in 4 courses (12 semester hours) and to complete 2 courses (6 semester hours) of mathematics at the level of college algebra or higher. Each course must be completed with a grade of "C" or better.

Students who wish to use transfer credit to satisfy the Gordon Rule must petition the Office of Undergraduate Studies for approval, using the General Education Program petition form. CLEP and other forms of credit by examination may not be used to satisfy the composition portion of the Gordon Rule Requirement.

UCF courses which are required by the General Education Program may also be used to satisfy the Gordon Rule. Gordon Rule requirements may be satisfied by the General Education Program as follows:

<table>
<thead>
<tr>
<th>Gordon Rule Requirement:</th>
<th>GEP Courses Which Satisfy:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 6 hours of math at the level of college</td>
<td>(1) college algebra or finite math</td>
</tr>
<tr>
<td>algebra or higher</td>
<td>(2) statistics or computer science</td>
</tr>
<tr>
<td></td>
<td>Any higher level (3000-level or above)</td>
</tr>
<tr>
<td></td>
<td>course in math, statistics, or computer science</td>
</tr>
<tr>
<td></td>
<td>may also be used toward fulfillment of the math portion of the Gordon Rule Requirement.</td>
</tr>
</tbody>
</table>
2. 12 hours of coursework in which the student must complete 24,000 words of composition

(1) 6 hours of English Composition
(2) 6-hour sequence of Western Humanities, U.S. History, or Western Civilization

All literature and composition courses taught by the Department of English, and each of the courses listed below fulfill 6,000 words of the composition portion of the Gordon Rule Requirement.

ADV 4101 Adv Copy & Campaigns
JOU 3100 News Reporting
JOU 4302 Editorial/Column Writing
JOU 4310 Freelance Writing
JOU 4300 Feature Writing
JOU 4104 Public Affairs Reporting

JOU 4306 Critical Writing
PUR 4800 Public Relations Campaigns
RTV 3501 Broadcast Copywriting
RTV 3300 Broadcast Newswriting
RTV 4402 Broadcast Criticism
THE 4072 Principles of Motion Picture Art

Each of the courses listed below fulfill 3,000 words of the composition portion of the Gordon Rule Requirement.

AMH 3402 History of the South to 1865
AMH 3403 History of the South Since 1865
AMH 3441 History of the Frontier: Eastern America
AMH 3442 History of the Frontier: Western America
AMH 3445 Spanish Borderlands
AMH 3460 History of Urban America
AMH 3540 Military History
AMH 3560 Women in American History
AMH 3570 Black American History
AMH 3800 Canadian History
AMH 4110 Colonial America, 1607-1763
AMH 4130 The Age of the American Revolution 1763-1789
AMH 4140 Jeffersonian America
AMH 4160 Jacksonian America
AMH 4170 Civil War and Reconstruction
AMH 4201 Robber Baron Era
AMH 4231 United States History: 1914-1945
AMH 4270 United States History: 1945-Present
AMH 4311 American Culture I
AMH 4313 American Culture II
AMH 4510 Rise of the US to World Power, 1776-1914
AMH 4511 US as a Great Power: 1914-Present
ANT 3145 Archae of Complex Soc
ANT 3162 Archae of Mid & S. Am
ANT 3163 Mesoam Arch
ANT 3328 Maya Arch
ANT 3930 Seminar in Arch Meth
ARH 4350 Baroque Art
ARH 4430 19th Century Art
ARH 4356 Art After 1945
ARH 3530 Asian Art
ARH 4450 20th Century Art
ARH 4655 Meso American Art
ARH 4311 Early Italian Renaissance Art
ARH 4312 Late Italian Renaissance Art
ASH 3300 Survey of East Asia
ASH 4404 China in 19th and 20th Centuries
ASH 4442 Modern Japan, 19th & 20th Centuries
EUH 3121 Age of Transition
EUH 3122 Medieval Society and Civilization
EUH 3142 Renaissance and Reformation
EUH 3235 Romanticism and Realism
EUH 3242 The Emergence of Modern Soc. 1870-1930
EUH 3281 Second World War & Rebirth of Europe
EUH 3401 Ancient Greece
EUH 3411 Ancient Rome
EUH 3651 War and Society
EUH 4284 Fascism & the Totalitarian Dictatorships
EUH 4456 France, 1914-Present
EUH 4461 Rise of Modern Germany
EUH 4465 Hitler's Third Reich
EUH 4500 English History to 1485
EUH 4501 English History to 1485-1815
EUH 4502 British History: 1815-Present
EUH 4530 British Empire & Commonwealth
EUH 4571 History of Russia to 1801
EUH 4574 History of Russia 1801-1917
EUH 4576 History of the Soviet Union: 1917-Present
EUH 4620 European Great Powers: 1815-1914
EUH 4621 War & International Politics in Europe 1914 to present
FIL 4201 Film Production II
HIS 4150 History and Historians
HUM 3431 Ancient World: Greece
HUM 3432 Ancient World: Rome
JOU 4300 Feature Writing
JOU 4104 Public Affairs Reporting
JOU 4306 Critical Writing
LAH 3130 Latin American History I
LAH 3200 Latin American History II
LAH 3400 History of Mexico & Central America
LAH 3470 History of the Caribbean
LEA 3012 Legal Writing
PHH 3100 Ancient Philosophy
PHH 3400 Modern Philosophy
PHI 1100 Critical Thinking
PHI 3600 Ethics
PHI 3800 Aesthetics
PHI 3803 Philosophy & Creativity
REL 3203 Hebrew & Christian Heritage
RTV 4403 Radio TV & Society
SOW 3104 Assessing Human Development
SYP 3400 Social Change
THE 3112 Theatre History I
THE 3113 Theatre History II

COLLEGE LEVEL ACADEMIC SKILLS TEST

The College-Level Academic Skills Test (CLAST) is designed to ensure that students have achieved communication and computation skills commensurate with successful completion of the Lower Division. All students seeking an Associate of Arts or Baccalaureate degree from UCF are required to pass CLAST. CLAST must be taken no later than the term in which a student enrolls for the 55th credit hour. Transfer students with more than 55 credit hours who have not had the opportunity to take CLAST may be admitted, but must take CLAST during their first term at UCF. Students passing 3 of the 4 CLAST subsections will be permitted to enroll in upper division hours.

CLAST is offered only once per term. Students must register in advance at the Office of the Registrar, Undergraduate Studies (AD 210), or the Counseling and Testing Center (RS 203). Further information regarding CLAST may be obtained from the Office of Undergraduate Studies.

SUMMER ATTENDANCE REQUIREMENT

A student entering the State University System with less than 60 semester hours of credit is required to enroll in a minimum of 9 hours of credit in the summer at a state university. Courses taken at the University during the summer for which the student receives a "W" or "F" may be counted toward this requirement. Petitions for exemption are sent to Dr. Dees in Undergraduate Studies on the form supplied by the Office of Undergraduate Studies (AD 210).

ADMISSION TO THE UPPER DIVISION

To be classified as an upper-division student at the University of Central Florida, a student must complete the following:
1. A minimum of 60 semester hours of academic work.
2. The English and mathematics requirements of the Gordon Rule.
3. Passing scores on three of the four parts of the College-Level Academic Skills Test (CLAST).
4. One year of college instruction in a single foreign language. (This requirement applies to those students admitted to the University without the required two units of foreign language in high school.)

STEPS IN THE GRADUATION PROCESS

A student should apply to the Registrar for graduation before registering for his final semester of attendance and not later than the end of the second week of the term of graduation.

Upon completion of 100 undergraduate semester hours of coursework, the student is notified to report to his Academic Advisor.

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 end of the second week of the term of graduation.
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 catalog under which the student has indicated he wishes to graduate 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 may not be enrolled as a transient student in another institution during the term in which the baccalaureate degree or the Associate of Arts degree is to be awarded.

TEACHER CERTIFICATION REQUIREMENTS

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:

1. 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.

2. Teaching Specialization
   Courses included in this category are normally classified as the major area in a student'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.

3. Professional Preparation
   Students can complete a program of Professional Preparation by one of two means at UCF. These means are:
   A. 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.
   B. The Basic Certification Program (i.e., a major in some other college) and admissibility to the professional phase of the program.

4. 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 beginning teacher program approved by the State Board of Education.
OFFICE OF UNDERGRADUATE STUDIES

Associate Vice President and Dean: Charles N. Micarelli, AD 210, Phone (407) 275-2691
Associate Dean: Paul R. McQuilkin, AD 210, Phone (407) 275-2691
Assistant Dean: David Dees, AD 210, Phone (407) 275-2691
Assistant Dean: Lawrence Tanzi, AD 210, Phone (407) 275-2691

The Office of Undergraduate Studies was established in July 1980 to assist in the development of University-wide programs and to assist undergraduate students in the pursuit of their academic goals. The activities in which Undergraduate Studies is involved include the Office of the Registrar, Admissions and Financial Aid, the General Education Program, placement examinations, CLAST, intercollege programs, academic advisement, and the Gordon Rule. Undergraduate Studies reviews student problems in such areas as class schedules, withdrawals, grade forgiveness policy, and admissions and standards policies (through the University Admissions and Standards Committee). The office works to improve teaching conditions through the Learning Resource Council and administers various University scholarships.

Undergraduate Studies also administers the Gerontology Certification Program, the Honors Programs, and the Liberal Studies Program; and it oversees the Academic Resource Center, Air Force and Army ROTC Programs, the Center of Excellence, Cooperative Education, the Office of High School and Community College Relations, the Hospitality Management Program, the Office of Minority Students Services, and the Student Academic Support System (SASS).

AEROSPACE STUDIES

Chair: R. E. Ceruti, FA 214, Phone 275-2264
Faculty: Daly, Cannon, Willis

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 programs. The four-year program provides on-campus study during the freshman through senior years. The two-year programs allow 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 Department of Aerospace Studies to obtain additional information.

CURRICULUM

Students enrolled in the Air Force ROTC program may major in any academic discipline and earn a minor in Aerospace Studies. A major is not offered by this department. An Aerospace Engineering Degree is offered under the College of Engineering. 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 element 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 commission 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 requirements prior to reaching age 26½ if entering Flight Training, or before age 30 if entering a non-flying Air Force specialty.
3. Pass the Air Force Officer Qualifying Test.
5. Complete the application and examination process, preferably prior to January 14 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 phased at 4, 3½, 3, 2½, and 2-year intervals. This system provides opportunities to those enrolled in both the four-year and two-year programs. These scholarships provide for full tuition, and an allowance for fees and textbooks. Scholarship recipients also receive the $100 monthly tax-free monetary allowance.

**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 $550. 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 $800.

**OFFICER COMMISSIONS**

Students who complete the Professional Officer Course are appointed Second Lieutenants in the United States Air Force Reserve. After completing the training program and entering active duty as reserve officers, they will serve a minimum active duty tour which varies in length depending on their particular career area. Such obligations are explained in detail during the one-on-one counseling sessions conducted with each prospect by detachment officers. During their period of active service, new officers 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**

**Chair:** Daniel J. Conn, FA 209, Phone (407) 275-2430

**Faculty:** Berry, Fernandez, Harris, Soto, Tollison

The University of Central Florida, in cooperation with the U.S. Army provides an opportunity to earn a commission as a lieutenant, and compete for an active duty assignment or accept a guaranteed Army Reserve or National Guard position. The program offers both a four-year and two-year option for students working on their Associate of Arts or Baccalaureate degrees. 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. Students in the Army Reserve or National Guard and continuing education full time may be eligible for the Army’s new Simultaneous Membership Program (SMP), which combines Reserve Forces duty with Army ROTC officer training courses on campus. Students earn about $5,000 in two years.

**MINOR**

The Department of Military Science offers a minor consisting of a minimum of 19 semester hours. Required courses: MIS 3301, 3410, 4421, 4430 and AMH 3540.

**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 reading, land navigation, use of a compass, grade structure, the Threat, communications, and leadership. There are no contractual obligations for students in the basic course and no commitments. It's an opportunity to see what Army ROTC is all about.

2. Advanced 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. Students who desire a commission as a second lieutenant are contracted and paid a subsistence allowance of $100.00 a month up to 10 months during the school year.

3. Summer Camp

Prior to commissioning each cadet must successfully complete an evaluation of skills learned. This evaluation is conducted at Ft. Riley, Kansas, during June and July. Summer Camp requirements apply only to Advanced Military Science students. Students attending the advanced camp receive approximately $650.00.

4. Daytona Beach Campus students contact the Professor of Military Science at Embry Riddle Aeronautical University, Daytona Beach, FL, (904) 239-6469.

SUMMER TRAINING

1. A summer training program is offered for students who are to be academic juniors without previous ROTC or military training. A student can earn placement credit for the Basic Course classes and allow entry into the Advanced Courses by attending a six-week course at Fort Knox, Kentucky, thereby allowing completion of all requirements for commissioning within two years. Students attending the summer course at Fort Knox will receive approximately $650 pay for the period. Additionally, all lodging, meals, transportation, and uniforms will be provided at no expense.

2. Qualified students can be selected to attend specialized military training during the summer months. Some of the areas of training available are:
   a. Airborne Training
   b. Air Assault Training
   c. Ranger Training
   d. Northern Warfare Training

MONETARY ALLOWANCE

All students enrolled in the Advanced Military Science Course receive a tax free monetary allowance of $100 per month.

SCHOLARSHIPS

Four-, three, and two-year scholarships are available for all students who qualify. These scholarships provide full tuition, fees, and required textbooks. Additionally, scholarship recipients receive $100 (tax free) per month. Scholarship applications are processed in the December-February time frame.

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 commissioning.
4. Full-time student status.

REQUISITES FOR ADMISSION TO THE ADVANCED COURSE

1. Successful completion of Basic Course, Basic Camp, JROTC, prior military service, or permission of Department Chair.
2. Successful completion of an Army physical examination.
3. Agreement to complete the Advanced Course requirements and serve on active, reserve, or national guard duty as a commissioned officer.
4. Full-time student status.

COMMUNITY COLLEGE RELATIONS

Director: Ralph Boston, AD 210, Phone (407) 275-2231

Community College Relations is responsible for: keeping community college students and counselors informed about UCF, its programs and policies; making state-wide and local visits to community colleges; annually publishing the UCF "Transfer Student Counseling Manual"; monitoring the statewide community college/university articulation agreement; serving as liaison with community college officials; conducting appropriate workshops/meetings to maintain and improve community college relations.
Cooperative Education

Director: Sheri Dressler  AD 128  Phone (407) 275-2314

Many university students actively plan their career through participation in cooperative education. Co-op is an academic program combining on-campus classroom study with off-campus study-related work experience for which the student receives a salary. It offers a blend of theory and practice, integrating formal university preparation with practical work experience. Through this program, students develop professional work skills, test career goals, improve academic performance, generate income, and increase prospects for full-time employment upon graduation.

Students choose between two scheduling options, the alternating plan in which they alternate terms of full-time work with full-time school and the parallel plan in which they attend classes full time and work part time concurrently. Additionally, for students who qualify for financial aid, co-op administers the Florida College Career Work Experience Program (FCCWEP) through which employers are reimbursed 50% of the student's salary for providing career-related work opportunities.

Eligibility requirements include 1) full-time enrollment in an undergraduate or graduate degree program at UCF 2) completion of a minimum of 20 post-secondary semester hours 3) having a minimum of 1 academic semester remaining before graduation 4) maintenance of a minimum of a 2.5/4.0 UCF grade point average.

Co-op is available to students on all campuses in all five colleges.

Gerontology Certification Program

In recognition of the special needs of the elderly citizens of Central Florida, the University offers a fifteen-hour interdisciplinary program leading to a Certificate in Gerontology. The program is completed along with the undergraduate major of the student and is administered by the Dean of Undergraduate Studies, AD 210. While the program may be of particular interest to students who are majoring in health sciences, psychology, social work, or sociology, it is compatible with many disciplines—for example, music, music education, physical education, or art education.

To be certified in gerontology, each student must successfully complete the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEP 3464</td>
<td>Psychology of Aging</td>
<td>3</td>
</tr>
<tr>
<td>HSC 4564</td>
<td>Health Care Needs of the Elderly</td>
<td>3</td>
</tr>
<tr>
<td>SYP 4730</td>
<td>Sociology of Aging</td>
<td>3</td>
</tr>
<tr>
<td>SOW 4644</td>
<td>Social Services for the Elderly</td>
<td>3</td>
</tr>
</tbody>
</table>

In addition, an approved clinical experience/practicum in gerontology or geriatrics must be completed for a minimum of three semester hours credit. Thus, the certification program requires fifteen semester hours of course work in addition to the major.

Students who are interested in certification should consult Dr. David Dees in Undergraduate Studies to enroll in the program and see one of the following faculty members for advisement:

Health Sciences - Louis J. Acierno, M.D., Professor of Health Sciences, BL 104.
Psychology - Richard D. Tucker, Ph.D., Associate Professor and Chair, Psychology, PH 317.
Social Work - Eileen M. Abel, M.S.W., Assistant Professor, Sociology, FA 414.
Sociology - Charles M. Unkovic, Ph.D., Professor of Sociology, FA 408.

Students whose major does not fall within one of these departments should report to the Office of Undergraduate Studies for advisement.

Department of Hospitality Management

Chair: A. Pizam, PH 102, Phone (407) 275-2188
Faculty: Ashley, Chandrasekar, Farsad, McCool, Milman

The hospitality industry is comprised of the many business organizations that provide services to individuals away from home. The hospitality industry, the number one employer in the United States, requires high technical and managerial competence for managing the numerous services provided by the varied organizations in the field.

The study of hospitality management prepares students for a broad range of managerial positions in hotels, motels, restaurants, catering services, resorts, country clubs, airlines, travel agencies, state and local convention and visitors bureaus, hospital and college food
services, as well as supportive industries, such as consulting and research firms, public accountants, computer firms, or sales and marketing organizations. The program provides students opportunities to complete studies in all hospitality management areas as well as for "hands-on" laboratory experience and for study in advanced specialized courses. In addition, necessary "real world" experience is provided through a requirement of 800 hours of paid employment in the hospitality field during each student's course of study.

**BACHELOR OF SCIENCE IN HOSPITALITY MANAGEMENT**

**Degree Requirements**

1. See Undergraduate Degree Requirements
2. **Required Courses**

   The Hospitality Management curriculum is in the process of being revised. For a current program call or visit the Hospitality Management Department at (407) 275-2188, PH 102

**MINOR**

The Hospitality Management Department offers a minor in Hospitality management. For a description of the current minor program call or visit the Hospitality Management Dept. at (407) 275-2188, PH 102.

**LIBERAL STUDIES PROGRAM**

**Dean:** Charles N. Micarelli, AD 210, Phone (407) 275-2691
**Director:** Dennis Kamrad, AD 384, Phone (407) 275-2351

**PURPOSE**

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

The program is administered through the Office of Undergraduate Studies 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 a decision on professional curricula until the sophomore year.

Students who are undecided about 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 General Education Program or the General Education requirement at a Florida State Community College. In addition, foreign language proficiency is required.

The Liberal Studies student must complete:
1. A minimum of four course area groupings in which at least three different disciplines are represented.
2. A minimum of 15 semester hours in each area with an additional 20 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 11 semester hours of general electives as well as 9 hours of supporting electives in completing the fifth area.**
3. A minimum of 48 upper-level hours must be earned in the 5 areas.

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.

The area of Mathematical Sciences may be used twice provided a concentration in Computer Science courses is chosen for one of the area groupings.

**COURSE AREA GROUPINGS**

**DISCIPLINE #**

(Four Course Area Groupings must be chosen from three different Discipline #'s)

**Business Administration**

   Accounting, Business Administration, Economics+, Finance, Hospitality Management, Management, Marketing
II  Education*
   Art Education, Business Education, Educational Media, Exceptional Child, Physical Education, Teaching Analysis, Vocational Education, and selected courses from Elementary and Secondary Education

III  Engineering
   Selected courses from the Engineering core and departmental offerings. The minor in Engineering Technology and Society may also be used.

IV  Health Sciences
   Communicative Disorders, Health Sciences, Medical Record Administration, Medical Laboratory Sciences, Nursing, Radiologic Sciences, Cardiopulmonary Sciences, and other Health Related Professions

V   Fine Arts
   Art, Music and Theatre

V   Humanities
   English, Foreign Literature, History, Humanities, Philosophy, and Religion

V   Languages
   Chinese, French, German, Hebrew, Italian, Latin, Russian, Spanish

VI  Biological Sciences
   Biology, Botany, Limnology, Microbiology, Zoology

VI  Mathematical Sciences
   Computer Science, Mathematics, and Statistics

VI  Physical Sciences
   Astronomy, Chemistry, Forensic Science, Geography (Physical), Geology, Physics, and general courses in the Earth and Space Sciences.

VI  Air Force or Army ROTC
   For students who take and complete the Air Force or Army ROTC four-year program or two-year upper division program.

VII Behavioral Sciences
   Anthropology, Psychology, Sociology, and Social Welfare

VII Communication
   Film, Journalism, Radio-Television, Speech, and general courses in Communication

VII Social Sciences
   Criminal Justice, Economics +, Geography (Social), Legal Studies, Political Science, and Public Administration

*Consult your advisor. Many Education courses require concurrent public school practicum.
+This course shown in two areas.
**Courses used to satisfy the GEP cannot also be used to satisfy the hours needed to complete a course area grouping.

MINORITY STUDENT SERVICES
Director: Robert Belle, AD 225, (407) 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.

STUDENT ACADEMIC RESOURCE CENTER
Director: Mary Helen Callarman, PC1-102, (407) 281-5130

The Student Academic Resource Center (SARC) provides students with individualized tutoring in math, English, and reading. Practice tests and preparatory materials for CLAST, SAT, GRE, and GMAT are also available.

Every semester SARC offers a series of CLAST Review Workshops in each of the four CLAST competencies: math, reading writing, and essay.

The Center also presents workshops in Research Paper Writing and Study Skills. Topics in the Study Skills series include: Time Management, Note taking, Test Taking, Stress Management, Test Anxiety, and Memory.

The SARC is designed to meet the individual needs of students, and its major objective is to provide students with academic support to insure their success in college.
ACADEMIC PROGRAMS

UNDERGRADUATE DEGREES

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 General Education Program requirements, and completion of the last 20 credit hours in residence at UCF. In addition, any student who wishes to receive an A.A. degree must have satisfied the Gordon Rule requirement and passed the College Level Academic Skills Test.

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. A student may not be enrolled as a transient student in another institution during the term in which the Associate of Arts degree is to be awarded. An Associate of Arts degree will not be awarded in the same term that the baccalaureate degree is to be awarded or in any term following the completion of the baccalaureate degree.

Baccalaureate Degrees

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, Bachelor of Science in Nursing, and Bachelor of Science in Social Sciences. These degrees are available in the following Colleges with majors or areas of specialization as indicated:

College of Arts and Sciences

Bachelor of Arts (B.A.)
Majors: Anthropology, Art, Communication, Criminal Justice, Economics, English, Film (RTV), Foreign Languages (General), French, History, Humanities, Humanities and Fine Arts (Intr.), Journalism, Music, Legal Studies, Music Education, Philosophy, Political Science, Psychology, Public Administration, Radio-Television, 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 (interdisciplinary), Statistics, Zoology

Bachelor of Social Work (B.S.W)
Major: Social Work

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 Science (B.S.)
Major: Elementary Education, Exceptional Child
Major: K-12--Art Education, Educational Media Specialist, Physical 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.)
Majors: Aerospace Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Environmental Engineering, Industrial Engineering, Mechanical Engineering
Bachelor of 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 Laboratory Sciences, Radiologic Sciences, CardioPulmonary Sciences
Bachelor of Science in Nursing (BSN)
Major: Nursing

Office of Undergraduate Studies
Bachelor of Arts (B.A.)
Major: Liberal Studies
Bachelor of Science (B.S.)
Major: Liberal Studies
Bachelor of Science (B.S.)
Major: Hospitality Management

Double Majors
Any UCF student working toward a single bachelor's degree (a B.A. degree or a B.S. degree) who satisfies the requirements for two majors will be awarded one diploma, but both majors will be indicated on the student's permanent record. Since the requirements for Bachelor of Arts and Bachelor of Science degrees are different, a student completing a major with a B.A. and a major with a B.S. must satisfy the requirements for both the B.A. and the B.S. degrees. Although both majors will be indicated on the student's permanent record, only one diploma (a B.A. or a B.S., at the student's option) will be awarded. A double major does not require a minimum number of hours beyond those necessary for completing degree requirements, while a second degree has specific minimum requirements. (See Second Baccalaureate Degree.)

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 hours. A separate diploma will be awarded for each degree.

Transfer graduates from accredited four-year U.S. 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 accredited U.S. institutions are considered to have completed all General Education Program Requirements. Students who hold degrees from foreign institutions may be required by the Dean of Undergraduate Studies to fulfill all or part of the UCF General Education Program requirements.

Minors
Minors in a limited number of programs have been authorized for certification with baccalaureate degrees. Minors must be indicated on the Intent to Graduate card and must be certified at the same time as the student's baccalaureate degree. Unless a second baccalaureate degree is earned, certification will not be made at a later time even if additional courses have been completed.

GRADUATE DEGREES
The University offers graduate degrees in the following colleges: (See Graduate Studies Catalog.)

College of Arts and Sciences
Doctor of Philosophy (Ph.D.)
Computer Science
Psychology (Human Factors)
Master of Arts (M.A.)
Applied Sociology
Communication
English
History
Political Science
Master of Public Administration (M.P.A.)
Master of Science (M.S.)
  Biological Science
  Clinical Psychology
  Computer Science
  Industrial Chemistry
  Industrial Psychology
  Mathematical Science
  Microbiology
  Physics
  Statistical Computing

College of Business Administration
  Doctor of Philosophy in Business Administration (Ph.D.)
  Master of Arts (M.A.)
  Applied Economics
  Master of Business Administration (M.B.A.)
  Master of Science (M.S.)
    Accounting
    Taxation

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

College of Engineering
  Master Civil Engineering (M.C.E.)
  Master of Science (M.S.)
    Engineering
  Master of Science in Engineering (M.S.E.)
    Civil Engineering
      Computer Engineering
      Electrical Engineering
      Environmental Engineering
      Industrial Engineering
      Industrial Engineering/Manufacturing Engineering
      Mechanical Engineering
  Master of Science in Environmental Systems Management (M.S.E.S.M.)
    Environmental Systems Management
  Doctor of Philosophy in Engineering (Ph.D.)
    Civil Engineering
      Computer Engineering
      Electrical Engineering
      Environmental Engineering
      Industrial Engineering
      Mechanical Engineering

College of Health
  Master of Arts (M.A.)
  Communicative Disorders
  Master of Science (M.S.)
    Health Sciences
COLLEGE OF ARTS AND SCIENCES

UNDERGRADUATE PROGRAMS

Anthropology (BA)  History (BA)
Art (BA)  Humanities (BA)
Art (BFA)  Journalism (BA)
Biological Science (BS)  Legal Studies (BA)
Biology (BS)  Mathematics (BS)
Botany (BS)  Music (BA)
Limnology (BS)  Music Education (BA)
Microbiology (BS)  Philosophy (BA)
Zoology (BS)  Physics (BS)
Chemistry (BS)  Political Science (BA)
Communication (BA)  Psychology (BA)
Computer Science (BS)  Public Administration (BA)
Criminal Justice (BA)  Radio-Television (BA)
Economics (BA)  Social Sciences (Int.)(BS)
English (BA)  Social Work (BSW)
Film (BA)  Sociology (BA)
Foreign Language Combination (BA)  Spanish (BA)
Forensic Science (BS)  Speech (BA)
French (BA)  Statistics (BS)

GRADUATE PROGRAMS*

Computer Science (Ph.D.)  Microbiology (MS)
Psychology/Human Factors (Ph.D.)  Physics (MS)
Biological Science (MS)  Political Science (MA)
Chemistry, Industrial (MS)  Psychology, Clinical (MS)
Communication (MA)  Psychology, Industrial (MS)
Computer Science (MS)  Public Administration (MPA)
English (MA)  Sociology, Applied (MA)
History (MA)  Statistical Computing (MS)
Mathematical Science (MS)

OTHER PROGRAMS

Predental  Prepharmacy
Premedical  Prepodiatry
Preoptometry  Preveterinary
Prelaw

*See the Graduate Studies catalog for detailed descriptions of these programs.
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; Music; Physics; Political Science; Psychology; Public Service Administration; Social Work; Sociology and Anthropology; Statistics; 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. For additional information concerning graduate programs, please refer to the Graduate Catalog.

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
Pre-Health Coordinator: Dr. O.M. Berringer, BL 103, Phone (407) 275-2968

The College of Arts and Sciences offers preprofessional programs in the health disciplines leading to further study in schools of dentistry, medicine, osteopathic medicine, optometry, pharmacy, podiatry, and veterinary medicine. They are administered through the Pre-Health Professions Advisement Office, located in the Biological Sciences Building, Room 103. Other programs associated with the health-related professions (i.e., the allied health sciences) are administered through the College of Health.

Prelaw Program

There is no preferred major 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 of the course work representing theory content is typically required. Typically, majors such as English, History, Humanities, Legal Studies, Sociology, and Political Science meet this criterion. 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 the 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 the historical foundations should seek advisement in the Department of History; for emphasis in political science advisement should be sought in the Department of Political Science; emphasis in economics should be gained through advisement in economics programs in either the College of Arts and Sciences or the College of Business Administration; emphasis in Legal Studies can be pursued in the Department of Public Service Administration.
The Office of Academic Support and Information Services (OASIS) assists students in the College of Arts and Sciences in matters concerning College and University requirements and procedures. Petitions for the substitution of courses for requirements in the General Education Program and evaluation of CLEP and TSD credit are processed through this office for all students in the college. Questions concerning University and College academic policies affecting Arts and Sciences majors should be directed to the OASIS staff in FA 208 or by calling (407) 275-2492.

**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 English, 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, or by calling (407) 275-2212.

**Natural Science Majors Requirement**

In addition to meeting all University requirements, the College requires that each degree program in the departments of Biological Science, Chemistry, Computer Science, Mathematics, Statistics, and Physics contain courses which will introduce the student to the three major scientific disciplines of physical science, biological sciences, and mathematical and computer sciences.

To satisfy this requirement, each student must successfully complete a minimum of four courses under a semester system (or six courses under a quarter system) distributed between the two scientific disciplines outside that of his/her major with a minimum of one course under a semester system (or two courses under a quarter system) in each discipline. At least one course in each discipline must contain a laboratory component. Some departments have identified a specific group of courses from which its majors may select in order to satisfy this requirement. In addition, some departments may have imposed additional criteria which must be met in order for their majors to satisfy this requirement. It is the student's responsibility to insure that both Departmental and College criteria have been met.

With proper justification students may be permitted to utilize courses offered outside the College of Arts and Sciences and to mix courses taken under both quarter and semester systems to satisfy this requirement. Any requests for such waivers must be accompanied by a departmental recommendation and should be submitted to the Office of the Dean, College of Arts and Sciences.

**Program Planning**

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

**INTERDISCIPLINARY MINOR PROGRAMS**

**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, SYD 3720. The student should be advised by the program advisor prior to registration.

**American Studies**

The minor in American Studies requires at least 21 hours of approved upper-division courses. The courses include at least three hours of restricted electives from each of three fields: literature and humanities, social sciences, and history. Other courses may be chosen from the list of approved courses available from the American Studies advisor. For further information, call Dr. K. Seidel, (407) 275-2251.
INTERNATIONAL STUDIES MINOR PROGRAMS

Canadian Studies

Canadian Studies offers both a certificate and a minor. These programs are interdisciplinary and include courses from the departments of English, History, Political Science, Public Service Administration, Foreign Languages, Anthropology, and the College of Engineering. For information consult Dr. Henry Kennedy, at the Florida Canada Institute Center, FA 404, Tel. (407) 275-2079.

Judaic Studies

An interdisciplinary minor in Judaic Studies is offered through the Department of Foreign Languages, with the cooperation of the departments of Humanities, Philosophy and Religion, English, History, Political Science, and Sociology/Anthropology. Included in the 26-28 required hours are Jewish History, at least one year of Hebrew, and 2-4 upper level courses such as JST 3613 Modern Hebrew Culture, REL 3203 The Hebrew and Christian Heritage, LIT 4373 Literature of the Bible, and JST 3905.1 Survey of Jewish Literature. See courses listed under prefix ASH, HBR, JST, REL, and WOH. For details contact Dr. Moshe Pelli, Director of Judaic Studies, FA 438 or 443, (407) 281-4039 or (407) 275-2466.

Latin American Area Studies

The minor in Latin American Area Studies offers a broad interdisciplinary approach to the understanding of Latin America and its peoples. The minor requires the completion of 18 semester hours selected from courses listed in the General Latin American Foundation Areas. In addition, students must complete the introductory language sequence (or its equivalent) in French or Spanish. For information contact Professor Jose B. Fernandez, FA 551, phone (407) 275-2224.

Soviet Area Studies

Five UCF departments, Foreign Languages, History, Political Sciences, Sociology, and Humanities, Philosophy and Religion, have pooled their resources to offer a minor to students interested in Soviet Area Studies a basic and well-rounded background in the field. The philosophy of the program is to offer students a multidisciplinary approach to the subject, so as to allow them to grasp the subject in its complexity and to understand linguistic, cultural, historical, political, and socio-economic interrelationships. Interested students should register for the minor with Dr. Karl-Heinrich Barsch, Department of Foreign Languages, FA 443, (407) 275-2466. For further information consult any of the above mentioned departments.

FOREIGN STUDY CENTERS—Undergraduate Interinstitutional Transient Program

The State University System operates study centers in London, England and Florence, Italy during the fall and spring semesters. Students with 27 or more semester hours of credit and GPA's 2.5 or above in all State Universities are eligible to apply for one or both semesters as interinstitutional transient students (see page 47). Faculty at the centers are drawn from the nine State Universities. While credits are earned through Florida State University, which administers the program on behalf of the State University System, credits are fully transferable within the System. Students at the Centers are considered to be resident in their home institutions for attendance and degree purposes. Classes at the Florence Center emphasize art history, Italian, social sciences, and the humanities; at the London Center, theatre, business, English, history and the social sciences. Field trips and museum visits are common to both. For further information consult Dr. Thomas Greenhaw in the Department of History (London Program) phone (407) 275-2224 or Dr. Robert Flick in the Department of Humanities, Philosophy and Religion (Florence Program), phone (407) 275-2273.

DEPARTMENT OF ART

Chair: M. Wahman, FA 523, Phone (407) 275-2676
Faculty: Chavda, Eyfells, Gaudnek, Lotz, Rivers, Skoglund, String, Wellman

The Art Department was established in 1966. Presently there are 9 full time and 8 part-time faculty members teaching traditional studio arts, graphic design, and art history. In 1986, the William S. and Alice M. Jenkins Eminent Scholar Chair in Community Arts was endowed through a gift from the Jenkins Family Foundation, Inc. The Chair was established under the Florida Endowment Trust Fund for Eminent Scholars Act. Chairholders serve as a resource for developing and teaching courses in Community Arts.
The curriculum in Art provides professional preparation in art history, visual arts administration, and in the studio areas of ceramics, computer graphics, drawing, fibers-fabrics, graphic design, painting, photography, printmaking, and sculpture, as well as combination specializations. Both the Bachelor of Arts and the Bachelor of Fine Arts degrees are offered. Competitive scholarships and awards are available to currently enrolled full-time UCF art majors through portfolio reviews by Faculty. These awards are sponsored by UCF, the Altrusa Club of Winter Park and the Albin Polasek Foundation.

Portfolio Requirements for Studio Majors: A selective portfolio of work representing the student's studio accomplishments in design and drawing is required for faculty review at the end of the sophomore year or at the completion of 12 semester hours of studio art courses. Faculty evaluation of this portfolio will determine if the student should advance further in the B.A. program. The university reserves the right to hold, for exhibition purposes, work done in classes.

MINOR
The Department of Art offers a major 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. To be eligible for a minor in Art, a student must have a GPA of at least 2.0 in all Art courses subject to the following constraints: No D grades in Art courses from other institutions will be transferable. Departmental Residency Requirement — At least 3 semester hours of regularly scheduled 2000-4000 level courses must be taken from the UCF Department of Art. These 3 hours must be in the area of specialization.

BACHELOR OF ARTS: ART
Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or departmental requirements
   A student must achieve at least a "C" grade point average (2.0) in the courses of his or her major. (See page 00)
   No D grades in Art courses from other institutions will be transferable.
   Departmental Residency Requirement — At least 18 semester hours of regularly
scheduled 3000-4000 level courses must be taken from the UCF Department of Art. Nine of these must be in the area of specialization.

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

<table>
<thead>
<tr>
<th>I. Art History</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Required Courses</td>
</tr>
<tr>
<td>ARH 2050, 2051, History of Art I, II 6 hours</td>
</tr>
<tr>
<td>ART 2201C, 2202C Design Fundamentals I, II 6 hours</td>
</tr>
<tr>
<td>ARH 4906 Senior Research 3-6 hours</td>
</tr>
<tr>
<td>B. Restricted Electives Any two:</td>
</tr>
<tr>
<td>ARH 4800 Theory and Criticism of the Visual Arts (3)</td>
</tr>
<tr>
<td>ARH 3820 Visual Arts Administration (3)</td>
</tr>
<tr>
<td>PHI 3800 Aesthetics (3)</td>
</tr>
<tr>
<td>ENC 3310 Magazine Writing (3)</td>
</tr>
<tr>
<td>EUH 3000-4000 level (3)</td>
</tr>
</tbody>
</table>

| C. Specialization 3000 and 4000 level Art History Courses 15 hours |

| D. Foreign Language 2 years of college level courses (12 hours) |

| E. Comprehensive Art History Examination |
| Total Semester hours in Art and Art History Courses 36-39 hours |
| Total Semester Hours Required 120 hours |

<table>
<thead>
<tr>
<th>II. Art (Studio)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Required Courses</td>
</tr>
<tr>
<td>ART 2201C, 2202C, Design Fundamentals I, II 6 hours</td>
</tr>
<tr>
<td>ART 2300C, 2301C Drawing Fundamentals I, II 6 hours</td>
</tr>
<tr>
<td>ARH 2050, 2051 History of Art I, II 6 hours</td>
</tr>
<tr>
<td>ARH 3000-4000 Art History Courses 6 hours</td>
</tr>
<tr>
<td>B. Area Specialization 3000-4000 level courses from:</td>
</tr>
<tr>
<td>Ceramics, Drawings, Fibers-Fabrics, Graphic Design, Painting, Printmaking, Photography, and Sculpture 12 hours</td>
</tr>
</tbody>
</table>

| C. Restricted Electives 3000-4000 level courses from at least 3 areas outside the area of specialization: Art History, Ceramics, Drawing, Fiber-Fabrics, Film, Graphic Design, Painting, Printmaking, Photography, Sculpture, and Special Topics. 9 hours |

| D. Portfolio Requirement Seniors are required to submit a portfolio of representative work in the students's area of specialization, for review by faculty. Total Semester Hours in Art & other recommended courses 45 |
| Total Semester Hours Required 120 |

### BACHELOR OF FINE ARTS: ART

The B.F.A. degree is recommended for studio art majors who plan to attend graduate school. Admission to the B.F.A. degree program requires the student to submit a formal application and a portfolio to the Faculty no earlier than the first semester of the student's senior year (upon completion of 90 semester hours). Once admitted to the B.F.A. program, the student must complete an additional 30 semester hours at UCF, with 12 hours in Art courses. A senior exhibition is required for graduation.
Degree Requirements

1. See Undergraduate Degree Requirements. A student must achieve at least a "B" grade point average (3.0) in the courses of her or his major.

2. See Special college and/or department requirements: No "D" grades in transfer Art courses; Department Residency Requirement: At least 18 s.h. of regularly scheduled upper-level courses must be taken from the UCF Department of Art. Nine of these must be in the area of specialization.

3. 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)
   - ARH 3000-4000: 3 Art History Courses or PGY 3001 (9 hours)

4. Area Specialization 3000-4000 level courses from: Ceramics, Drawing, Graphic Design, Painting, Printmaking, Photography, and Sculpture or combinations. Combination specializations in any two media require 9 or 12 hours of upper-division courses in each half of the combination for a total of 21 hours.

5. Restricted Electives 15-21 hours
   - 3000-4000 level courses from at least 3 areas outside the student's specialization: Art History, Ceramics, Drawing, Fibre and Fabrics, Film, Graphic Design, Painting, Printmaking, Photography, Sculpture, and Special Topics.

6. Electives
   - Total Semester Hours in Art Courses: 54-60
   - Total Semester Hours Required: 120

DEPARTMENT OF BIOLOGICAL SCIENCES

Chair: F. Snelson, BL 211, Phone (407) 275-2141
Faculty: Berringer, Charba, Ehrhart, Ellis, Gennaro, Koevenig, Kuhn, Laird, Miller, Osborne, Stout, Sweeney, Sweet, W. Taylor, Vickers, Washington, White, Whittier, Wodzinski

The Department of Biological Sciences offers Bachelor of Science degree programs in biology, botany, limnology, microbiology, and zoology; a minor in biology; and the Master of Science in Biological Science and in Microbiology. The Core Curriculum required of all undergraduate degree programs provides a background in the chemical, mathematical, and physical sciences as well as broad preparation in the biological sciences. This diverse background opens career opportunities for graduates in areas outside of their particular degree program. In addition, our graduates are well prepared to further their education in professional or graduate schools. Selection of electives, in consultation with a faculty advisor, permits emphasis on a specific subspecialty within a degree program. Research experience and exposure to specialized topics not taught through formal courses may be gained through independent study contracts.

MINOR IN BIOLOGY

The Department of Biological Sciences offers a minor in Biology, consisting of a minimum of 30 hours.

Required courses (20 hours): BOT 2010C, BSC 2010C, MCB 3013C, PCB 3063, PCB 3063L, and ZOO 2010C.

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 biology course(s) accepted for degree programs 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.
C. To receive credit for a biological science course, students must pass both the lecture and laboratory components.
BACHELOR OF SCIENCE: ALL MAJORS

Degree Requirements

1. To be eligible for a major in any of the biological science degree programs, 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. In addition, a student may apply no more than 4 hours of independent study, directed research, or similar types of credit toward requirements in the major. To receive credit for a biological sciences course, students must pass both the lecture and laboratory components. Students seeking a double major within the Department of Biological Sciences must satisfy the requirements of both majors and must take no fewer than 40 semester hours of coursework appropriate to the combined areas of specialization of the two majors.

2. The Core Curriculum is required of all undergraduate degree programs in the Department of Biological Sciences.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOT 2010C</td>
<td>General Botany</td>
<td>3</td>
</tr>
<tr>
<td>BSC 2010C</td>
<td>General Biology</td>
<td>4</td>
</tr>
<tr>
<td>CHM 2045, 2046, 2046L</td>
<td>Chemistry Fundamentals I, II, lab</td>
<td>8</td>
</tr>
<tr>
<td>CHM 3210, 3211, 3211L</td>
<td>Organic Chemistry I, II, lab</td>
<td>8</td>
</tr>
<tr>
<td>MCB 3013C</td>
<td>General Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>MCB 4404C</td>
<td>Microbial Metabolism</td>
<td>4</td>
</tr>
<tr>
<td>PCB 3023</td>
<td>Cell Physiology</td>
<td>3</td>
</tr>
<tr>
<td>PCB 3043, 3043L</td>
<td>Principles of Ecology with lab</td>
<td>4</td>
</tr>
<tr>
<td>PCB 3063, 3063L</td>
<td>Genetics with lab</td>
<td>4</td>
</tr>
<tr>
<td>PHY 2053C, 2054C</td>
<td>College Physics I and II</td>
<td>8</td>
</tr>
<tr>
<td>STA 3023</td>
<td>Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>ZOO 2010C</td>
<td>General Zoology</td>
<td>4</td>
</tr>
<tr>
<td>MAC 1104 or higher</td>
<td>Mathematics</td>
<td>6</td>
</tr>
</tbody>
</table>

*B A minimum of 6 semester hours in mathematics 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.

BACHELOR OF SCIENCE: BIOLOGY

Degree Requirements:

1. See Undergraduate Degree Requirements
2. See special college and/or departmental requirements
3. Required Courses
   Core Curriculum 60-61 hours
4. Restricted Electives 24 hours
   Biology, Botany, Microbiology, or Zoology to be selected in consultation with advisor from courses numbered 3000 or above. Up to 6 hours of formal course work in Chemistry, 3000-level or above, may also be applied.
5. Electives (Varies with degree program; student should consult advisor).

Total Semester Hours Required 128

BACHELOR OF SCIENCE: BOTANY

Degree Requirements:

1. See Undergraduate Degree Requirements
2. See special college and/or departmental requirements
3. Required Courses
   Core Curriculum 60-61 hours
4. Restricted Electives 6 hours
   Biology, Botany, Chemistry, Microbiology, or Zoology. To be selected in consultation with advisor from courses numbered 3000 or above. Must include at least 4 hours of Botany.
5. Electives (Varies with degree program; student should consult advisor).

Total Semester Hours Required 128
# BACHELOR OF SCIENCE: LIMNOLOGY

**Degree Requirements:**
1. See Undergraduate Degree Requirements
2. See special college and/or departmental requirements
3. Required Courses
   - **Core Curriculum**
     - COP 1200  
       Computer Programming  
       3 hours
     - PCB 4302C  
       Limnology I  
       4 hours
     - PCB 4303C  
       Limnology II  
       4 hours
     - ZOO 4880C  
       Fisheries Management  
       4 hours
4. **Restricted Electives**
   - 12 hours
   - Biology, Botany, Chemistry, Computer Science, Microbiology, Physics, Statistics, or Zoology courses numbered 3000 or above. To be selected in consultation with advisor.
5. Electives
   - (Varies with degree program; student should consult advisor)
   - Total Semester Hours Required 128

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# BACHELOR OF SCIENCE: MICROBIOLOGY

**Degree Requirements:**
1. See Undergraduate Degree Requirements
2. See special college and/or departmental requirements
3. Required courses
   - **Core Curriculum**
     - BCH 4053, 4054  
       Biochemistry I, II  
       6 hours
     - CHM 3120C  
       Analytical Chemistry  
       5 hours
     - MCB 3023, 3023L  
       Pathogenic Microbiology with lab  
       4 hours
     - MCB 4114C  
       Microbial Systematics & Diagnosis  
       4 hours
     - MCB 4404C  
       Microbial Metabolism  
       4 hours
     - MCB 4603C  
       Environmental Microbiology  
       4 hours
     - PCB 3233, 3233L  
       Immunology with lab  
       4 hours
4. **Restricted Electives**
   - None
5. Electives
   - (Varies with degree program; students should consult advisor)
   - Total Semester Hours Required 128

---

# BACHELOR OF SCIENCE: ZOOLOGY

**Degree Requirements:**
1. See Undergraduate Degree Requirements
2. See special college and/or departmental requirements
3. Required Courses
   - **Core Curriculum**
     - PCB 4723  
       Animal Physiology  
       4 hours
     - ZOO 3303C  
       Vertebrate Zoology  
       4 hours
     - ZOO 3713C  
       Comparative Vertebrate Zoology  
       5 hours
     - ZOO 4203C  
       Invertebrate Zoology  
       4 hours
4. **Restricted Electives**
   - 8 hours
   - ZOO courses numbered 3000-level or above. To be selected in consultation with advisor.
5. Electives
   - (Varies with degree program; student should consult advisor)
   - Total Semester Hours Required 128

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# DEPARTMENT OF CHEMISTRY

**Chair:** H. Miles, CH 117, Phone (407) 275-2246

**Faculty:** Baker, Clausen, Cunningham, Elsheimer, Gupton, Hampton, Hertel, Juge, Kujawa (Geology), Madsen, Mattson, McGee (Forensic Science), Trefonas

The Department of Chemistry offers courses and programs which lead to a Bachelor of Science in Chemistry, a Bachelor of Science in Forensic Science, a minor in Chemistry and a Master of Science in Industrial Chemistry.

The undergraduate degree program in chemistry is accredited by the American Chemical Society Committee on Professional Training. It prepares the graduate for career opportuni-
ties in the chemical or related industries or in government laboratories. The program may also lead to further study at the graduate level in chemistry or in a related area such as pharmacology or toxicology. With an appropriate choice of electives it also constitutes excellent preparation for the professional schools of dentistry, medicine, and veterinary medicine.

MINOR

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

Required courses (21 semester hours): CHM 2045, 2046, 2046L, 3210, 3211, 3211L, and 3120C.

Restricted electives (7 semester 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, 4221, CHS 4110C, 4200

BACHELOR OF SCIENCE: CHEMISTRY

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 2045, 2046</td>
<td>Chemistry Fundamentals I, II</td>
<td>7 hours</td>
</tr>
<tr>
<td>CHM 2046L</td>
<td>Chemistry Fundamentals Laboratory</td>
<td>1 hour</td>
</tr>
<tr>
<td>CHM 3210, 3211</td>
<td>Organic Chemistry I, II</td>
<td>6 hours</td>
</tr>
<tr>
<td>CHM 3211L, 3212L</td>
<td>Organic Laboratory Techniques I, II</td>
<td>4 hours</td>
</tr>
<tr>
<td>CHM 3120C</td>
<td>Analytical Chemistry</td>
<td>5 hours</td>
</tr>
<tr>
<td>CHM 3410, 3411</td>
<td>Physical Chemistry I, II</td>
<td>7 hours</td>
</tr>
<tr>
<td>CHM 3410L, 3411L</td>
<td>Physical Chemistry Laboratory</td>
<td>3 hours</td>
</tr>
<tr>
<td>CHM 4610</td>
<td>Inorganic Chemistry</td>
<td>3 hours</td>
</tr>
<tr>
<td>CHM 4130C</td>
<td>Advanced Analytical Laboratory Technique</td>
<td>4 hours</td>
</tr>
<tr>
<td>CHM 4912</td>
<td>Undergraduate Research</td>
<td>4 hours</td>
</tr>
<tr>
<td>CHM 4932</td>
<td>Chemistry Seminar</td>
<td>1 hour</td>
</tr>
<tr>
<td>ENC 3241</td>
<td>Technical Report Writing</td>
<td>3 hours</td>
</tr>
<tr>
<td>MAC 3311, 3312, 3313</td>
<td>Calculus with Analytic Geometry I,II,III</td>
<td>12 hours</td>
</tr>
</tbody>
</table>
PHY 3048, 3048L, 3049, 3049L
STA 3023

4. Restricted Electives
   a. Biological Sciences (minimum of 7 hours)
      BSC 2010C: General Biology
      Approved electives restricted to those biological science courses not listed as designed for non-majors.
   b. Minimum of 3 hours
      COP 1200: Computer Programming
      COP 2000: Programming I
      CGS 3422: Programming and Numerical Methods
   c. Minimum of 3 hours
      PHY 3752C: Physics of Scientific Instruments
      CDA 4012: Computer Interfacing for Scientists
      CET 3123C: Microprocessor Electronics
      EEL 3341C: Introduction to Digital Circuits
      EEL 3342C: Intro to Digital Circuits and Systems
   d. Minimum of 6 hours
      BCH 4053: Biochemistry I
      BCH 4054: Biochemistry II
      CHM 4220: Advanced, Organic Chemistry I
      CHM 4235: Applied Molecular Spectroscopy
      CHM 4221: Advanced Organic Chemistry II
      CHM 4580: Advanced Physical Chemistry
      CHM 5710: Chemical Structure I
      CHS 3531: Forensic Analysis
      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.

FORCENIC SCIENCE PROGRAM

Director: W.W. McGee, CH 221, Phone (407) 275-2788

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. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
   BSC 2010C: General Biology
   CHM 2045, 2046: Chemistry Fundamentals I, II
   CHM 2046L: Chemistry Fundamentals Laboratory
   CHM 3210, 3211: Organic Chemistry I, II
   CHM 3210L: Organic Laboratory Techniques I
   CHM 3120C: Analytical Chemistry
   CHS 3501: Introduction to Forensic Science
   CHS 3505: Forensic Microscopy
   CHS 3531: Forensic Analysis of Controlled Substances
   CHS 4591: Forensic Science Internship
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 2010C, General Botany or MCB 3013C, General Microbiology, with the remainder normally selected from upper division courses of science or forensic science. Exceptions to these stipulations must be approved by the student’s advisor.

5. Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COP 1200</td>
<td>Computer Programming</td>
<td>3</td>
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<tr>
<td>ENC 3241</td>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>CHM 3410</td>
<td>Physical Chemistry I</td>
<td>4</td>
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<tr>
<td>CHM 4130C</td>
<td>Advanced Analytical Chemistry</td>
<td>4</td>
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<tr>
<td>MAC 3253, 3254</td>
<td>Applied Calculus I, II</td>
<td>6</td>
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<tr>
<td>PHY 2053C, 2054C</td>
<td>College Physics I, II</td>
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<tr>
<td>STA 3023</td>
<td>Statistical Methods I</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Semester Hours Required**

120

**DEPARTMENT OF COMMUNICATION**

**Chair:** J. Welke, FA 534, Phone (407) 275-2681

**Faculty:** Arnold, J. Butler, Davis, Fedler, Fowles, Grasty, Hall, Hoglin, Jeffrey, Johnson, Lester, McCann, Meeske, Morgan, O'Keefe, Pryor, R. Smith, Sullivan, Tanzi, Taylor, Wycoff

The Department of Communication offers Bachelor Degree programs in five specific areas:

1. Bachelor of Arts: Communication
2. Bachelor of Arts: Film
3. Bachelor of Arts: Journalism
4. Bachelor of Arts: Radio-Television
5. Bachelor of Arts: Speech

Two of the above degree programs have designated areas of specialization, allowing students the option of selecting the specialization track which most interests them. The two degree programs are:

1. Bachelor of Arts: Communication
   A. General Communication track
   B. Organizational Communication track
2. Bachelor of Arts: Journalism
   A. News-Editorial track
   B. Advertising-Public Relations track

An internship program is available to qualified students. Students should consult with their advisors for specific details.

Any student contemplating graduate study should be aware of special requirements in some graduate schools, such as foreign languages, statistics, and computer programming.

**Communication Proficiency:** Students are required to demonstrate written proficiency in grammar, punctuation, and word usage. This is a prerequisite for most of the department writing courses and a requirement for graduation. Testing is conducted prior to the start of each semester and remedial options are provided. See your academic advisor or contact the department office for more information.

**Transfer Limitation:** Generally, students may not substitute lower division courses taken at community colleges for upper division courses in the communication major. Students wishing to transfer courses from other colleges must apply for equivalency credit. College catalog, course syllabus, textbook used or other supporting information must be provided by the student. Faculty committees in the two Journalism tracks and in Radio-Television will evaluate applications for equivalency October 15, February 15 and June 15.

**Typing Proficiency:** Certain writing courses have a 20 word-per-minute typing ability prerequisite. All Journalism majors (News-Editorial and Advertising/Public Relations) and all Radio-Television majors must satisfy this proficiency requirement as well as all others planning to enroll in these courses. A required brief typing test will be given by the department prior to the start of each semester. See your academic advisor or contact the department office for further information.
MINOR
The Department of Communication offers the following minors consisting of a minimum of 15-16 semester hours in each minor.

1. Film
   Required Courses: FIL 3200(4), FIL 4201 (4), FIL 3300 (4), Either RTV 3000 (3) or PGY 3610 (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
   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) or PUR 4800 (3).

5. Journalism: News/Editorial Sequence
   JOU 3100 (4), JOU 3200 (4), MMC 4200 (3), MMC 4602 (3) or JOU 3004 (3), plus JOU elective (writing course) (3 hrs.).

6. Radio-TV
   RTV 3000 (3), RTV 4700 or RTV 4403 (3): RTV 3300 or RTV 3501 (4); RTV 3200 (4).

7. Speech Communication
   SPC 3301 (3) and 15 semester hours from the remaining courses: ORI 3001 (3), SPC 3511 (3), SPC 3601 (3), COM 3250 (3), SPC 3301 (3), SPC 4330 (3), SPC 3425 (3).

1Prerequisite of Departmental Grammar proficiency test required.

BACHELOR OF ARTS: COMMUNICATION

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
   COM 3311 Communication as a Behavioral Science 3 hours
   SPC 4330 Nonverbal Communication 3 hours
   SPC 4540 Attitudes and Communication 3 hours
   SPC 3425 Group Interaction 3 hours
4. Restricted Electives (See Area of Specialization)
5. Electives (See Area of Specialization)

AREAS OF SPECIALIZATION
1. General Communication Track Requirements
   SPC 3301 Interpersonal Communication 3 hours
   SPC 3542 Persuasion 3 hours
   MMC 4200 Communication Law 3 hours
   Select one course from history:
   RTV 3000 Foundations of Broadcasting 3 hours
   JOU 3004 History of American Journalism 3 hours
   SPC 4633 Rhetoric of Social and Political Action 3 hours
   SPC 5200 Evolution of Communication Theory 3 hours
   Select 2 courses from motivation:
   PUR 4000 Public Relations 3 hours
   ADV 4000 Principles of Advertising 3 hours
   RTV 4402 Broadcast Criticism 3 hours
   COM 3250 Communication and Human Relations 3 hours
   Select 2 courses from research:
   MMC 4609 Opinion and the Mass Media 4 hours
   SPC 4440 Group Dynamics 3 hours
   SPC 4350 Studies in Listening 3 hours
   COM 4912 Studies in Human Communication Research 3 hours
   COM 4463 Communication and Courtroom Advocacy 3 hours
   Students must select 9 hours of electives from Department of Communication.
2. Organizational Communication Track Requirements
   COM 3110 Business and Professional Communication 3 hours
   SPC 3445 Leadership 3 hours
SPC 4440  Group Dynamics  3 hours
SPC 4350  Studies in Listening  3 hours
SPC 3301  Interpersonal Communication  3 hours
COM 3120  Organizational Communication  3 hours
PUR 4000  Public Relations  3 hours

Students must select 12 hours of electives from Department of Communication.

¹Prerequisite of Departmental Grammar proficiency test required.

BACHELOR OF ARTS: FILM

NOTE: A substantially revised, limited access Film curriculum was being planned when this catalog went to press. This new curriculum, subject to Board of Regent approval, is tentatively scheduled for implementation in August, 1989. Please contact the departmental office for further information.

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
   COM 3311¹  Communication as a Behavioral Science  3 hours
   RTV 3000  Foundations of Broadcasting  3 hours
   RTV 3200  Broadcast Techniques  4 hours
   THE 3251  History of Motion Picture  3 hours
   PGY 3610  Photojournalism I  4 hours
   FIL 3200  Film Production  4 hours
   FIL 4201  Film Production II  4 hours
   FIL 3300  Film Documentary  4 hours
   MMC 4200  Communication Law  3 hours
   *PR: FIL 3200

4. Restricted Electives
   Nine (9) hours from Communication Department
   Internship credits can be applied only as general electives and not to your major.

5. Electives

Total Semester Hours Required  120

¹Prerequisite of Departmental Grammar proficiency test required.

BACHELOR OF ARTS: JOURNALISM

Degree Requirements
1. See Undergraduate degree requirements
2. See special college and/or department requirements
3. Required Courses
   COM 3311¹  Communication as a Behavioral Science  3 hours
   JOU 3100  News Reporting  4 hours
   MMC 4200  Legal Responsibilities of the Mass Media  3 hours

4. Restricted Electives
   (See Area of Specialization)
   Students must select and complete one of the areas of specialization listed below.

5. Electives
   (See Area of Specialization)

Total Semester Hours Required  120

¹Prerequisite of Departmental Grammar proficiency test required.

AREAS OF SPECIALIZATION
1. Required Courses: News-Editorial Track
   JOU 3200¹  News Editing  4 hours
   JOU 4104¹  Public Affairs Reporting  4 hours
   MMC 4602  Contemporary Media Issues  3 hours
   JOU 3004  History of American Journalism  3 hours
   JOU 4300¹  Feature Writing  4 hours
   PGY 3610 or ADV 4000  3 hours
   JOU Internship  3 hours
The journalism faculty strongly recommends that news-editorial majors work for the student newspaper. In addition, all news-editorial majors are required to obtain an off-campus internship with a commercial weekly, daily newspaper, or with a magazine. Because they will need the skills taught in those classes during any internship, students should complete News Reporting, Public Affairs Reporting, and Feature Writing before accepting an internship.

The faculty also recommends that news-editorial majors select a minor outside the Department of Communication. Recommended minors include: Political Science, History, English, Economics, Sociology, Public Service Administration, or Business Administration, for example.

2. Required Courses: Advertising/Public Relations Track

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUR 4000</td>
<td>Principles of Public Relations</td>
<td></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>3</td>
</tr>
<tr>
<td>ADV 4101</td>
<td>Ad Copy and Campaigns</td>
<td>3</td>
</tr>
<tr>
<td>ADV 4103</td>
<td>Radio-TV Advertising</td>
<td>3</td>
</tr>
<tr>
<td>COM 3110</td>
<td>Business &amp; Prof. Communication</td>
<td>3</td>
</tr>
<tr>
<td>PGY 3610</td>
<td>Photojournalism I</td>
<td>3</td>
</tr>
<tr>
<td>ADV/PUR</td>
<td>Practicum (4941)</td>
<td>3-6</td>
</tr>
<tr>
<td>PUR 4800</td>
<td>Public Relations Campaign</td>
<td>3</td>
</tr>
</tbody>
</table>

Recommended: Students in the ADV/PUR track may elect to complete a second different internship for an additional 3 elective hours. Check with your advisor before registering for an internship.

1 Prerequisite of Departmental Grammar proficiency test required.

BACHELOR OF ARTS: RADIO-TELEVISION

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTV 3200</td>
<td>Broadcast Techniques</td>
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</tr>
<tr>
<td>RTV 3210</td>
<td>Radio Production</td>
<td>4</td>
</tr>
<tr>
<td>RTV 3260</td>
<td>Electronic Field Production</td>
<td>3</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 4800</td>
<td>Broadcast Management</td>
<td>3</td>
</tr>
<tr>
<td>RTV 3300</td>
<td>Broadcast Newswriting</td>
<td>4</td>
</tr>
<tr>
<td>RTV 3501</td>
<td>Broadcast Copywriting</td>
<td>4</td>
</tr>
</tbody>
</table>

4. Restricted Electives: Six (6) credit hours in the Department of Communication
5. Electives

Recommended: Students are encouraged to work with WUCF radio to gain practical experience. In addition, students should arrange for an internship off campus with a radio or television station.

1 Prerequisite of Departmental Grammar Proficiency Test required.

BACHELOR OF ARTS: SPEECH

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
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>
<tr>
<td>SPC 3542</td>
<td>Persuasion: Motivation</td>
<td>3</td>
</tr>
<tr>
<td>SPC 3425</td>
<td>Group Interaction</td>
<td>3</td>
</tr>
<tr>
<td>COM 3250</td>
<td>Communication and Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>SPC 3601</td>
<td>Advanced Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>SPC 4330</td>
<td>Non-verbal</td>
<td>3</td>
</tr>
</tbody>
</table>

Recommended: Students are encouraged to work with WUCF radio to gain practical experience. In addition, students should arrange for an internship off campus with a radio or television station.

1 Prerequisite of Departmental Grammar Proficiency Test required.
4. Restricted Electives:
   Select 6 hours from research area:
   - SPC 3445 Leadership
   - SPC 4440 Group Dynamics
   - SPC 4540 Attitudes and Communication
   - SPC 4350 Listening
   - COM 4918 Research Planning
   - COM 4463 Communication and Courtroom Advocacy

Select 5-6 hours from Rhetoric:
   - SPC 4633 Rhetoric of Social and Political Action
   - ORI 3001 Interpretation
   - SPC 3410 Parliamentary Procedure
   - LIN 3200 Phonetics
   - SPC 5200 Evolution of Communication Theory

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

Total Semester Hours Required 120

¹Prerequisite of Departmental Grammar Proficiency Test required.

DEPARTMENT OF COMPUTER SCIENCE

Chair: A. Mukherjee, CCII 218, Phone (407) 275-2341
Faculty: Bassiouni, Brigham, Chen, Cottrell, Deo, Driscoll, Dutton, Frederick, Gerber, Gomez, Guha, Hughes, Isner, Lang, Leeson, Lindholm, Malik, Moshe/1, Mukherjee, Noll, Orooji, Segami, Shah, Workman.

The Department of Computer Science offers courses and programs leading to Bachelor of Science, Master of Science (see Graduate Catalog), and Doctor of Philosophy (see Graduate Catalog) degree in Computer Science. In addition the department offers two minors: (1) Computer Science minor 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 concentration in selected areas. In addition, the department conducts research in programming systems/languages, information systems, computer architecture, computational methods, and other areas.

The department’s minicomputer laboratory includes: a DEC VAX 11/780 with 4MB memory, 48 ports, Autodial interface to Arpanet and the Computer Science Network; DEC VAX 11/730; Harris H1000; a Benson-Varian 9211 printer/plotter, 2 AED 512 color graphics terminals and a TEKTRONIX 4052 graphics terminal with accessories. Both UNIX and VMS operating systems are available along with PASCAL, C and FORTRAN. The department’s microcomputer laboratory includes the WICAT System 150 with UNIX, 4 Zilog MCZ 1/30’s, CROMEMCO System 3, and fourteen APPLE and IBM personal computers with a full range of peripherals. Specialized research equipment includes a GENRAD/FUTUREDATA universal microprocessor development system network with emulators and evaluation boards for all major 16-bit architectures, a KONTRON universal prom burner and a TEKTRONIX logic analyzer. The department’s computer facilities are supported by three full time technical staff and an electronics laboratory. In addition, there is access to UNIVAC 1100, CDC CYBER, IBM 4341, HARRIS 800, and IBM 4381 machines located at various nodes in the State University System network.

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 non-Computer Science courses used to satisfy the requirements for the major in Computer Science.
2. A minimum GPA of 2.50 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.
4. Departmental Residency Requirement - At least 18 semester hours of regularly scheduled 4000-5000 level courses must be taken from the UCF Department of Computer Science.
MINORS
The Department of Computer Science offers the following minors consisting of a minimum of 18 semester hours in each minor. A minimum GPA of 2.00 is required in all courses used to satisfy the requirements for the minor in computer science, and at least three courses must be taken from the UCF Department of Computer Science.

1. Computer Science Minor for Business Majors
   Required courses (15 hours): CGS 3000, 3100, 3262, 3300, COP 3120
   Restricted electives (3 hours minimum): ACG 3701, ACG 5346, CIS 4321, COP 1200, 2000, 2001, 3400, 4710, ECO 4412, FIN 3453, MAC 3233, 3311, 3312, 3313, MAN 4722, 4724, MAR 3613, MAS 3113, STA 4102, 4163.

2. General Computer Science Minor
   Restricted electives (6 hours minimum): COP 3402, 4020, 4124, 4600, 4710, COT 3100, 4500.

BACHELOR OF SCIENCE: COMPUTER SCIENCE

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required courses:
   I. COMPUTER SCIENCE CORE: 42 hours
      Computer Science Courses
      COP 2000 Programming I
      COP 2001 Programming II
      COP 3400 Assembly Language
      COP 3402 Computer Systems Concepts/Programming
      COT 3100 Introduction to Discrete Structures
      COP 3530 Data Structures
      Support Courses
      MAC 3311 Calculus with Analytic Geometry I
      MAC 3312 Calculus with Analytic Geometry II
      STA 3023 Statistical Methods I
      PHY 3048 Physics for Engineers & Scientists I
      PHY 3049 Physics for Engineers & Scientists II
      PHY 3049L Physics for Engineers & Scientists Lab. II
      EEL 3341C Introduction to Digital Circuits
      Special Department Requirement
      ENC 3241 Technical Report Writing
   II. UPPER DIVISION REQUIRED COURSES: 12 hours
      *CDA 4105 Introduction to Computer Architecture
      *COT 4210 Discrete Computational Structures
      *COP 4020 Programming Languages I
      *COP 4600 Programming Systems
      *Required for admittance into the Computer Science Graduate Program.

   III. RESTRICTED ELECTIVES 16 hours
      At least two 4000-5000 level regularly scheduled 6 hours
      Computer Science courses for majors. Not more than 4 hours of Computer Science Independent Study may be used.
      Any 4000-5000 level regularly scheduled course—10 hours
      Computer Science, Mathematics and/or Statistics—for majors of the respective departments or any course specified below in the "concentration" areas.

4. Electives
   Total Semester Hours Required 120

AREAS OF CONCENTRATION
A student may, but need not, receive a Concentration in Architecture, Data Base, Programming and Systems, and/or Scientific by taking those courses listed below which are respectively designated by (A), (D), (P) and/or (S).
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>ECO 2013</td>
<td>Principles of Economics I</td>
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<tr>
<td>ECO 2023</td>
<td>Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td>ECO 3101</td>
<td>Intermediate Price Theory</td>
<td>3</td>
</tr>
<tr>
<td>ECO 3203</td>
<td>Aggregate Economic Conditions Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ECO 3411</td>
<td>Quantitative Methods and Business Decision Analysis</td>
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</table>

4. Restricted Electives

a. Select Six Courses:

<table>
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<tbody>
<tr>
<td>ECO 3703</td>
<td>International Economics</td>
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<tr>
<td>ECO 4224</td>
<td>Money: Issues and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ECO 4303</td>
<td>History of Economic Thought</td>
<td>3</td>
</tr>
<tr>
<td>ECO 4412</td>
<td>Economic Statistics and Econometrics</td>
<td>3</td>
</tr>
<tr>
<td>ECO 4504</td>
<td>Economics of the Public Sector</td>
<td>3</td>
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<tr>
<td>ECP 3203</td>
<td>Contemporary Labor Economics</td>
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<tr>
<td>ECP 3424</td>
<td>The Economics of Regulated Industries</td>
<td>3</td>
</tr>
<tr>
<td>ECP 3433</td>
<td>Transportation Economics</td>
<td>3</td>
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<tr>
<td>ECP 4403</td>
<td>Business, Government &amp; Industrial Organization</td>
<td>3</td>
</tr>
<tr>
<td>ECP 4603</td>
<td>Urban and Regional Economic Problems</td>
<td>3</td>
</tr>
<tr>
<td>ECP 4703</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECS 4003</td>
<td>Comparative Economic Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECS 4013</td>
<td>Economic Development</td>
<td>3</td>
</tr>
</tbody>
</table>

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**

Chair: J. Schell, FA 452, Phone (407) 275-2212

Faculty: Adicks, Astro, Barnes-Crocitto, Becker, Brain, Deane, Donnelly, George, Haile, Hemschemeyer, Higgins-Young, Jaffe, Jones, Keller, Marmaduke, Ormans, Price, Rushin, Schiffhorst, Seidel, Sommer, Stap, Stroshofer, Umphrey, Wood, Wyatt

The UCF English Department is responsible for the effective teaching of language and literature in English, including World Literature, and creative, expository, and technical writing. Students may concentrate in creative writing, technical writing, literature or linguistics. The department serves the broad needs of the University with course offerings in writing and literature for students from other departments. The department has a Technical Documentation Writing Lab and also publishes The Florida Review.

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MINOR

The Department of English offers the following minors:

Creative Writing Minor: Twenty-one semester hours. Required courses: CRW 2000, CRW 2100 or CRW 2300, CRW 3001, CRW 3002. Nine remaining hours to be chosen from CRW 3410, CRW 4940, CRW 4041, CRW 3310, CRW 3930.

Literature Minor: Twenty-one semester hours with no fewer than twelve completed at UCF. Requirements: Twelve semester hours selected from ENL 2010, 3021, AML 2011, 3020, ENL 3273, LIT 2110, 3120. Nine additional semester hours of English courses chosen by the student and advisor.

Linguistics Minor: Eighteen semester hours. Required courses: LIN 3010, LIN 4100, LIN 4341. Nine remaining hours to be chosen from LIN 4202, LIN 4612, LIN 4801, LIN 4660, LIN 5137, ANT 3610, PHI 4220, or any course approved by the Linguistics Committee.

Technical Writing and Editing Minor: Twenty-two semester hours, as follows: ENC 2290, 3210 or 3241, 3310, 3311 or 3341, 3311, 4215, 4293, 4294, 4295. Students completing the minor may intern with a Central Florida corporation.

BACHELOR OF ARTS: ENGLISH

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special College and/or department requirements
3. Required courses
   Foundation (for all concentrations)
   
   LIT 3000  Intro to Literary Analysis  3 hours
   CRW 3000  Intro to Creative Writing  3 hours
   ENC 3211  Intro to Tech Writing  3 hours
   LIN 3010  Intro to Linguistics  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

4. Restricted Electives
   (See Literature, Creative Writing, Technical Writing, and Linguistic concentrations below.)

5. Electives
   To be selected primarily from upper level courses with advisor's approval.

Total Semester Hours Required 120

CONCENTRATIONS

1. Literature
   Required:
   
   ENL 4330  Shakespeare  3 hours
   ENL 4311  Chaucer  3 hours
   or
   ENL 4341  Milton  3 hours
   
   Choose Four of:
   
   ENL 4353  Eighteenth Century Studies  3 hours
   ENL 5226  English Renaissance Poetry & Prose  3 hours
   ENL 5236  Age of Dryden & Pope  3 hours
   ENL 5347  Age of Milton  3 hours
   LIT 5366  Romantic Revolt  3 hours
   LIT 5367  The Victorian Age  3 hours
   AML 4101  American Novel  3 hours
   ENL 4101  English Novel  3 hours
   AML 4321  Modern American Literature  3 hours
   ENL 4373  Modern British Literature  3 hours
   AML 4261  Literature of the South  3 hours

2. Creative Writing
   Required:
   
   ENL 4330  Shakespeare  3 hours
   ENL 4311  Chaucer  3 hours
   or
   ENL 4341  Milton  3 hours
CRW 2100 Introduction to Fiction Writing 3 hours
CRW 2300 Introduction to Verse Writing 3 hours
CRW 3001 Creative Writing Workshop I 3 hours
CRW 3002 Creative Writing Workshop II 3 hours
Choose One of:
CRW 3410 Writing Scripts
ENC 3310 Magazine Writing I
ENC 3311 Advanced Expository Writing
ENC 3341 Magazine Writing II
ENC 3210 Business Report Writing
ENC 3241 Technical Report Writing
Choose Two of:
CRW 4940 Advanced Writing Workshop I 6 hours
CRW 4941 Advanced Writing Workshop II
CRW 5932 Teaching Creative Writing

3. Technical Writing
Required:
ENC 2290 Careers in Writing 1 hour
ENC 3310 Magazine Writing I
ENC 3311 Advanced Expository Writing
ENC 3341 Magazine Writing II

Required (Advanced):
ENC 4293 Technical Documentation I 3 hours
ENC 4294 Technical Documentation II 3 hours
ENC 4295 Technical Documentation III 3 hours
ENC 4215 Techniques of Technical Publication 3 hours
LIT 4433 Surv. Technical and Scientific Literature 3 hours
ENC 4218 Graphics Capabilities 3 hours
ENC 4280 Technical Vocabulary 3 hours

Choose One of:
ENC 3330 Rhetoric and Organization
ENC 3283 Science and Lay Reader
ENC 4254 Technical Writing & Imagination

Optional:
ENC 4941 Technical Writing & Editing Internship 3 hours
(by Instructors’ recommendation)

4. Linguistics:
Required:
LIN 4100 History of English Language 3 hours
LIN 4341 Modern English Grammar 3 hours

Choose Five of:
LIN 5137 Linguistics
LIN 3710 Foundations of Language
LIN 4801 Language and Meaning
PHI 4220 Philosophy of Language
LIN 4202 Phonetics
LIN 5705 Psycholinguistics
SPC 4330 NonVerbal Communication
LIN 4612 Black English
LIN 4020 AnthroLinguistics

90
DEPARTMENT OF FOREIGN LANGUAGES

Chair: A. Payas, FA 443, Phone (407) 275-2466
Faculty: Barsch, Cervone, DiPierro, Fernandez, Micarelli, Pelli, Taylor

Language studies in the College of Arts and Sciences provide instruction in Chinese, French, German, Hebrew, 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. They must complete 30 semester hours in the chosen language at the 3000 level or above. Among these 30 semester hours they must take courses numbered 3241 (SPN), 3244 (FRE), 3420, 3100, and 3101. Non-native French majors must also take FRE 4780 (French Phonetics and Diction) or the overseas summer course FRE 3955 (Corrective Phonetics and Vocabulary Building). Students interested in a combined major must take courses numbered 3241 (SPN), 3244 (FRE), 3420, 3100, and 3101 in both languages, plus an additional 15 hours in the primary language and an additional 6 hours in the secondary language for a total of 45 semester hours. This total must include FRE 4780 (French Phonetics and Diction) or FRE 3955 (Corrective Phonetics and Vocabulary Building).

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

A native or near-native speaker must substitute an alternate upper-division Spanish and French course for the conversation course (3241 (SPN) - 3244 (FRE)). Also, a native or near-native French speaker must substitute an alternate upper-division French course for FRE 4780 (French Phonetics and Diction) or FRE 3955 (Corrective Phonetics & Vocabulary Building). In cases where native speakers have received advanced education abroad, they will not be permitted to take the composition course (3420) for the fulfillment of their major requirements but must substitute another literature course chosen in consultation with advisors in the department.

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

Foreign Language State Teacher Certification may be obtained through the Department of Foreign Languages. The Certificate qualifies students to teach foreign languages at the elementary or high school levels.

MINORS

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

Required courses: 18 semester hours at the 3000 level or above in one language including the courses numbered 3241 (SPN), 3244 (FRE), 3240 (GER), and 3420.

BACHELOR OF ARTS: FRENCH OR SPANISH

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required courses for French or Spanish Major

3244 (FRE), 3241 (SPN)
3420
3100
3101
or
3130
3131
Conversation
Composition
Survey of Literature I
Survey of Literature II
Survey of Latin-American Lit. I
Survey of Latin-American Lit. II
3 hours
3 hours
3 hours
3 hours
3 hours
3 hours
French Majors
FRE 4780 or
FRE 3955

French Phonetics and Diction
Corrective Phonetics & Vocabulary Building

3 hours
18 hours

4. Restricted Electives
Students are also required to choose two of the following:
LIN 4100
LIN 4341
LIN 3010
History of the English Language
Modern English Grammar
Principles of Linguistics

3 hours
3 hours
3 hours

BACHELOR OF ARTS: FOREIGN LANGUAGE COMBINATION

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses for Combined Major in Foreign Languages
FRE 3244 (FRE),
FRE 3241 (SPN)
FRE 3420
FRE 3100
FRE 3101
FRE 4780 or
FRE 3955
Conversation
Composition
Survey of Literature I
Survey of Literature II
French Phonetics and Diction
Corrective Phonetics & Vocabulary Building

3 hours
3 hours
3 hours
3 hours
3 hours
3 hours

4. Electives
Total Semester Hours Required

Summer Study Abroad
The Department of Foreign Languages has been offering a Summer Study program in Spain since 1972, in Italy since 1975, and one in France since 1981. These programs are approved by the Board of Regents and are expected to be offered in 1988. Credit bearing courses are available in these programs in language (all levels), art, and civilization of France, Italy, or Spain. These programs are open to all students of the State University System of Florida.

AREA OF SPECIALIZATION
1. Judaic Studies. An interdisciplinary minor in Judaic Studies is offered through the Department of Foreign Languages, with the cooperation of the Departments of Humanities, Philosophy and Religion, English, History, Political Science and Sociology/Anthropology. 26-28 hours are required, including a general survey of Jewish history, at least one year of Hebrew, and 2-4 upper level courses, depending on whether an additional year of Hebrew is taken. See courses listed under prefix JST, HBR, REL, and WOH. For details consult Dr. Moshe Pelli, Director of Judaic Studies, FA 438 or 443, phone (407) 281-5039 or (407) 275-2466.

2. Latin American Studies. The minor in Latin American Area Studies offers a broad interdisciplinary approach to the understanding of Latin America and its peoples. The minor requires the completion of 18 semester hours selected from courses listed in the General Latin American Foundation Areas. In addition, students must complete the introductory language sequence (or its equivalent) in French or Spanish. For information, consult Professor Jose B. Fernandez, FA 551, phone (407) 275-2224.

3. Soviet Area Studies. The College of Arts and Sciences offers an academic minor in Soviet Area Studies. Five UCF departments, Foreign Languages, History, Political Science, Sociology, and Humanities, Philosophy and Religion, have pooled their resources in order to offer students interested in Soviet Area Studies a basic and
well-rounded background in the field. The philosophy of the program is to offer students a multidisciplinary approach so as to understand the linguistic, cultural, historical, political, and socio-economic interrelationships. Interested students should register for the minor with Dr. Karl-Heinrich Barsch, Department of Foreign Languages.

DEPARTMENT OF HISTORY

Chair: J. Shofter, FA 551-B, Phone (407) 275-2224
Faculty: Colbourn, Crepeau, Evans, Fernandez, Fetscher, Greenhaw, Kallina, Leckie, 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. Grades of D or below may not be counted toward the major.

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 school. 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.

Latin American Studies: The History Department participates in the Latin American Studies program. Consult Dr. Jose B. Fernandez for information.

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. See Undergraduate Degree Requirements
2. See special college and/or department requirements
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. Soviet Area Studies. The History Department participates in the Soviet Area Program. For information consult with Professor Evans.

DEPARTMENT OF HUMANITIES, PHILOSOPHY AND RELIGION

Chair: P. Riley, FA 463, Phone (407) 275-2273
Faculty: Flick, Jones, Kassim, Levensohn, Riser

The Department of Humanities, Philosophy and Religion offers an interdepartmental Humanities major, with three choices of specialization; a philosophy major; minors in Asian Studies, 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.

MINORS

The Department of Humanities, Philosophy, and Religion offers the following minors:
1. Asian Studies
   An interdisciplinary minor consisting of a minimum of 21 semester hours in which seven UCF departments—Anthropology, Art, Economics, Foreign Languages, History, Political Science, and Humanities, Philosophy, and Religion—participate in order to offer students a basic and well-rounded background in the field. For information consult Dr. Kassim.
2. Humanities
An interdisciplinary minor consisting of a minimum of 23 semester hours.
Required courses: 11 semester hours of Humanities, plus courses in art, music, literature, and electives in philosophy or religion. Specific courses must be selected in conference with a departmental advisor.

3. Philosophy
Twenty-four semester hours.
Required courses: PHI 1100, PHI 2130, PHI 2010, PHI 3600, plus 12 additional semester hours of philosophy courses selected in conference with a departmental advisor.

4. Religion
Twenty-one semester hours.
Required courses: REL 2302 plus a minimum of 18 semester hours of upper level religion courses. For specific requirements, students should see a departmental advisor.

BACHELOR OF ARTS: HUMANITIES

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (all specializations; choose two)
   - HUM 4301 The Classical Ideal in the Arts 4 hours
   - 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 certification in Humanities in the College of Education, or to strengthen the major with cognate 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 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 art history 3 hours
   c. One course in history of philosophy 3 hours
   d. One course in religion 3 hours
   e. Two courses in art 6 hours
   f. Two courses in creative writing 6 hours
   g. Two 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 theatre history 3 hours
BACHELOR OF ARTS: PHILOSOPHY

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
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
   PHP 3786  Existentialism  3 hours
   PHH 3600  Problems in Contemporary Philosophy  3 hours
   PHI 3600  Ethics  3 hours
4. Restricted Electives
   Six elective courses in philosophy  18 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

DEPARTMENT OF MATHEMATICS

Chair: L. Debnath, CC II 221, Phone (407) 275-2585
Faculty: Andrews, Anthony, Armstrong, Barr, Brigham, Caron, Debnath, Eves, Heinzer, Hurst, Jones, Malik, Mikusinski, Mohapatra, Norman, Pettofrezzo, Rautenstauch, Richardson, Rodriguez, Salzmann, Sherwood, Shivamoggi, Taylor, Vajravelu

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

The programs in mathematics are designed to serve (1) students who wish to pursue careers in mathematics 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 as a tool in their specialty areas.

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

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

MINOR

The Department of Mathematics offers the following minor consisting of a minimum of 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 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 at UCF.

BACHELOR OF SCIENCE: MATHEMATICS

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements

All mathematics courses except for MAC 3311, 3312, 3313, and MAP 3302 must either be taken from the Department of Mathematics at UCF or must be approved by the Mathematics Department Standards Committee. The Department suggests that students consider taking MAS 3113 (Matrices) before taking MAS 3103 (Linear Algebra). The Matrices course will then be used as an elective.
3. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BSC 2010C</td>
<td>General Biology</td>
<td>4</td>
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<tr>
<td>COP 2000</td>
<td>Programming I</td>
<td>3</td>
</tr>
<tr>
<td>COP 2001</td>
<td>Programming II</td>
<td>3</td>
</tr>
<tr>
<td>MAA 4226</td>
<td>Advanced Calculus I</td>
<td>4</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>
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<tr>
<td>MAP 3302</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MAP 4363</td>
<td>Applied Boundary Value Problems I</td>
<td>3</td>
</tr>
<tr>
<td>MAS 3103</td>
<td>Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MHF 2300</td>
<td>Logic and Proof in Mathematics</td>
<td>3</td>
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<tr>
<td>PHY 3048</td>
<td>Physics for Engineers &amp; Scientists I</td>
<td>3</td>
</tr>
<tr>
<td>PHY 3048L</td>
<td>Physics for Engineers &amp; Scientists Lab. I</td>
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<tr>
<td>PHY 3049</td>
<td>Physics for Engineers &amp; Scientists II</td>
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<tr>
<td>PHY 3049L</td>
<td>Physics for Engineers &amp; Scientists Lab. II</td>
<td>1 hour</td>
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<tr>
<td>STA 3023</td>
<td>Statistical Methods I</td>
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<tr>
<td>STA 4321</td>
<td>Statistical Theory I</td>
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One course selected from

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<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENC 3241</td>
<td>Technical Report Writing</td>
<td>3</td>
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<tr>
<td>ENC 3310</td>
<td>Magazine Writing I</td>
<td>3</td>
</tr>
<tr>
<td>ENC 3311</td>
<td>Advanced Expository Writing</td>
<td>3</td>
</tr>
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</table>

4. AREA OF SPECIALIZATION

a. Mathematics

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAA 4227</td>
<td>Advanced Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MAD 4203</td>
<td>Combinatorics and Graph Theory</td>
<td>3</td>
</tr>
<tr>
<td>MAS 4301</td>
<td>Algebraic Structures</td>
<td>3</td>
</tr>
<tr>
<td>or</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 4500, 5510; COT 4210 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. This course must be approved by the Department Standards Committee.

b. Applied Mathematics

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 2045</td>
<td>Chemistry Fundamentals I</td>
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</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 4153</td>
<td>Vector and Tensor Analysis</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>Combinatorics and Graph Theory</td>
<td>4</td>
</tr>
<tr>
<td>MAP 4364</td>
<td>Applied Boundary Value Problems II</td>
<td>3</td>
</tr>
<tr>
<td>STA 4322</td>
<td>Statistical Theory II</td>
<td>3</td>
</tr>
</tbody>
</table>

One course selected from upper division or graduate mathematics or statistics courses or from CNM 5510 or COT 4210. (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. A list of courses approved by the Mathematics Department Standards Committee is available in the Department Office.

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 must be approved by the Department Standards Committee.

Total Semester Hours Required 120
DEPARTMENT OF MUSIC
Chair: B. Whisler, FA 105A, Phone (407) 275-2869

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.

The Music Department is an Associate Member of the National Association of Schools of Music.

Music organizations on campus include Phi Mu Alpha, Sigma Alpha Iota, Tau Beta Sigma, Kappa Kappa Psi, University Vocal Society and a Student Chapter of Music Educators National Conference.

SPECIAL MUSIC MAJOR ENTRANCE REQUIREMENTS
In order to be accepted as a music or music education major, the student must perform an audition. Each student must demonstrate an advanced level of proficiency by performing compositions representing a variety of musical periods. Memorization is required for pianists and vocalists. Accompanists will be furnished only upon request prior to the audition. Each candidate must bring music for the compositions he or she intends to perform. The College will provide large instruments such as the tuba, string bass, or tympani for these auditions. All smaller instruments must be brought to the University. The audition will serve as a placement examination for accepted candidates.

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. 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 is offered by the College of Education.

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 reported as part of their official academic record, 2) have an overall and UCF academic average (G.P.A.) of 2.0 or above, 3) have satisfactorily completed EDG 4321 (Teaching Strategies), 4) have passed the College Level Academic Skills Test (CLAST), and 5) submit a formal junior student teaching application to the College of Education Student Internships Office. Must meet the College of Education’s requirements for admission to Junior and Senior Year Student Teaching.

Since July 1, 1980, all applicants for a teaching certificate in Florida must pass a written competency examination administered by the Florida State Department of Education.

Since July 1, 1982, all applicants for their First Regular Florida Teaching Certificate must satisfy requirements of the Florida Beginning Teacher Program.

COMPREHENSIVE EXAMINATIONS

Comprehensive examinations in Music Theory and Music History should be taken by students during their junior year. Ear-training, sight-singing, part-writing, and visual analysis examinations will be offered during the fall semester; a music history examination will be offered during the spring.

POLICY REGARDING MAJOR ENSEMBLE PARTICIPATION

1. In order to graduate, music majors with a performance specialization must spread their required 8 semester hours of major ensemble credit over at least 8 separate semesters; music majors with a liberal arts specialization must spread their required 6 semester hours of major and/or minor ensemble credit over at least 6 separate semesters; music education majors must spread their required 7 semester hours of minor ensemble credit over at least 7 separate semesters.

2. The following ensembles are considered major ensembles: chorus, symphony orchestra, concert band, marching band and wind ensemble.

3. Vocal music education majors may select to substitute 1 hour of band or orchestra for 1 hour of the minor ensemble requirement provided they have sufficient facility on an appropriate instrument.

4. Assignment to major ensembles will be made by the ensemble directors.

5. Any undergraduate student taking a course in Performance must take concurrently a major ensemble appropriate to his/her principal instrument.

POLICY REGARDING MINOR ENSEMBLE PARTICIPATION

1. In order to graduate, music majors with a performance specialization must spread their required 4 semester hours of minor ensemble credit over at least 3 separate semesters; music majors with a liberal arts specialization must spread their required 6 semester hours of major and/or minor ensemble credit over at least 6 separate semesters; music education majors must spread their required 4 semester hours of minor ensemble credit over at least 3 separate semesters.

2. The following ensembles will be considered minor ensembles: Brass Ensembles, Percussion Ensembles, Piano Ensembles, String Ensembles, Vocal Ensembles (except Opera Workshop), Woodwind Ensembles, Jazz Lab.

POLICY REGARDING RECITALS AND STUDENT TEACHING

Music and Music Education students must complete all but one of the following proficiency examinations before they will be permitted to audition for their senior recital and/or do their senior student teaching: music history, piano, sight-singing, ear training, and music theory. Music Education students may not give their required recital during the semester of their senior student teaching.

MINOR

The Department of Music offers a Minor in Music. The requirements are as follows:

1. A successful audition on the student’s principal instrument or voice.

2. A minimum of 21 semester hours credit to include the following or their equivalent: MUT 2111, MUT 2112 (4 hours); MUT 1241, MUT 1242 (2 hours); MUL 2010 (3 hours); major ensemble credit spread over at least 4 separate semesters (4 hours); 2 semesters of
performance level I (4 hours) and 2 semesters of performance level II (4 hours) on the same instrument.

3. A minimum of 11 semester hours of these required courses, including two semesters of a major performing organization and two semesters of Performance Level II, must be completed at UCF.

4. Successful completion of 4 semesters of Music Forum (Mus 1010).

5. A GPA of 2.0 is required for all music courses attempted, whether used to fulfill these requirements or not.

**BACHELOR OF ARTS: MUSIC**

**Degree Requirements**

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses [both programs]
   - MUS 1010 Music Forum (6 semesters) 0 hours
   - MUT 2111, 2112, 3116, 3117, 4561 Music Theory 10 hours
   - MUT 1241, 1242, 2246, 2247, 3248 Ear Training and Sight Singing 5 hours
   - MVK/MVS/MVW/MVB Performance (4 semesters) 8 hours
   - MVP/MVV *Music History* 6 hours

**Special Non-Course Requirements**

1. Students are required to take piano until they meet the Piano Proficiency requirement.
2. Music history and music theory comprehensive examinations.

**Program A—Performance Specialization**

- Music 1010 Music Forum (2 semesters) 0 hours
- MVK/MVS/MVW/MVB Performance (4 semesters, including 2 semesters of Level IV) 8 hours
- MUN Major Ensemble (8 semesters) 8 hours
- MUN Minor Ensemble (4 semesters) 4 hours
- MVK Class Piano I-IV 4 hours
- MUG 3101 Basic Conducting 2 hours
- PH 3464 Physical Basis of Music 3 hours
- Music Electives 22 hours

Any secondary performance course not in area of major instrument or any MUC, MUE, MUG, MUH, MUL, MUN, MUS, MUT courses numbered 3000 or higher except the following: MUH 4218, MUT 4031, 4249.

In partial fulfillment of their electives requirements, piano students must take Piano Literature (MUL 3400, 3401 - 2 hours each) for a combined total of 4 hours; voice students take Foreign Diction (FRE 1005, GER 1005, ITA 1005 - 1 hour each), Voice Pedagogy (MVV 4640, 4641 - 1 hour each), and Song Literature (MUL 3600, 3601 - 1 hour each) for a combined total of 7 hours; piano pedagogy students take Piano Literature (MUL 3400, 3401 - 2 hours each), Piano Pedagogy (MVV 4640, 4641 - 1 hour each), and Studio Teaching (MUS 4401) for 2 hours, for a combined total of 8 hours.

4. Restricted Electives see above

5. Electives 3 hours

**Special Non-Course Requirements**

1. 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.
2. Residency requirements: 2 semesters of Performance level IV; senior recital; history and theory proficiency examinations.
3. At least 77 hours of credit must be earned in music courses.

**Program B—Liberal Arts Specialization**

- MVK/MVS/MVW/MVB Performance (2 semesters, including 2 semesters of Level III) 4 hours
- MUN Major and Minor Ensembles (6 semesters) 6 hours
- MVK Class Piano I-IV 4 hours
- Music Electives/Special Requirements 5 hours
Any MUC, MUE, MUG, MUH, MUL, MUS, MUT courses numbered 3000 or higher except the following: MUH 4218, MUT 4031 and 4249.

In partial fulfillment of their electives requirements, piano students take Piano Literature (MUL 3400, 3401 - 2 hours each) for a combined total of 4 hours; voice students take Foreign Diction (FRE 1005, GER 1005, ITA 1005 - 1 hour each) and Song Literature (MUL 3600, 3601 - 1 hour each) for a combined total of 5 hours.

4. Restricted Electives
   see above

5. Electives

**Special Non-Course Requirements**
1. One faculty approved thirty-minute recital.
2. Residency requirements: 2 semesters of Performance level III; ensembles (2) [not in same semester]; MUT 4561; MUT 3248; MUS 1010 (2); history and theory proficiency examinations, recital.

   Total Semester Hours Required 120

*Three semester hours of coursework in the General Education Program are satisfied by the Music History sequence.

**BACHELOR OF ARTS: MUSIC EDUCATION**

**Degree Requirements**
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses

- **MUS 1010** Music Forum (6 semesters) 0 hours
- **MUT 2111, 2112, 3116, 3117, 4561** Music Theory 10 hours
- **MUT 1241, 1242, 2246, 2247, 3248** Ear Training and Sight Singing 5 hours
- **MVB/MVK/MVP** Performance (6 semesters including 2 semesters of level III) 12 hours
- **MVS/MVV/MVW** Major Ensemble (7 semesters) 7 hours
- **MUN** Minor Ensemble 4 hours
- **MUH 4211, 4212** *Music History* 6 hours
- **MUG 3101** Basic Conducting 2 hours
- **MUE 1460** Brass Techniques 1 hour
- **MUE 1470** Percussion Techniques 1 hour
- **MUE 1440** String Techniques 1 hour
- **MUE 1450** Woodwind Techniques 1 hour
- **EDF 3603** Analysis of Educational Foundations 3 hours
- **EDF 4214** Classroom Learning Principles 3 hours
- **EDF 4285** Application of Technology in Education 3 hours
- **EDG 4324** Teaching in the Schools 3 hours
- **EDG 4321** Teaching Strategies 4 hours
- **EDE 3943** Junior Year Student Teaching 6 hours
- **EDE or ESE 4943** Senior Year Student Teaching 12 hours
- **MUE 4311** Elementary School Music Instructional Analysis 2 hours
- **MUE 4360** Secondary School Music Instructional Analysis 2 hours

**Program A - Instrumental Music Education Specialization**
- **MVV 1211** Class Voice 1 hour
- **MVK** Class Piano I-IV 4 hours
- **MVB/MVK/MVP** Performance IV 2 hours
- **MVS/MVV/MVW** Brass Techniques 1 hour
- **MUE 1460** Brass Techniques 1 hour
- **MUE 1450** Woodwind Techniques 1 hour
- **MUG 3302** Instrumental Conducting 2 hours
- **MUT 4344** Seminar in Music Arranging 1 hour
- **MUE 4480** Marching Band Techniques 1 hour

**Program B - Choral Music Education Specialization**
- **MVK 1111-1141** Class Piano I-IV (Not required of Piano Majors) 4 hours
Program C -Elementary School Music Education Specialization

- MVV 1211: Class Voice
  - Secondary Guitar (Not required of Voice Majors)
- MVS 1216: Choral Conducting
- MUG 3202: Performance IV
- MVB/MVK/MVP/MVS/MVV: Diction
- ITA 1005, FRE 1005, GER 1005

4. Restricted Electives
   None.
5. Electives
   None.

Minimum Total Semester Hours Required: 134-139

- Three semester hours of course work in the General Education Program are satisfied by the Music History sequence.

Special Non-course requirements
1. Students are required to take piano until they meet the Piano Proficiency requirement.
2. A faculty-approved public recital of 30 minutes length. (A recital is optional for the Elementary School Music Specialization).
4. Any student who graduates from UCF with a major in music education must complete his/her last two semesters of required performance; his/her recital, if required; and, his/her senior year student teaching while in attendance at UCF.
5. A GPA of 2.0 is required for all music courses attempted.

DEPARTMENT OF PHYSICS

Chair: S. K. Bose, HPB 312, Phone (407) 275-2325
Faculty: Bass, Boleson, Bolte, Brennan, Caldwell, Chow, Chowdhury, Hagan, Lin, Littlewood, Llewellyn, Neighbor, Noon, Saha, Soileau

The Department of Physics offers a Bachelor of Science degree in Physics and a minor in Physics, physics courses for graduate and undergraduate science education majors, and a Masters of Science in Physics. 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.

Physics is the basic science fundamental to many different fields of endeavor. Physics majors are therefore 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.

Research of the faculty covers environmental physics, instrumentation and measurement of fundamental constants, lasers, mathematical modeling, Mossbauer spectroscopy, molecular and atomic spectroscopy, nuclear physics, optics, and physics education. Physics faculty also carry interdisciplinary research at the UCF Center for Research in Electro-optics and Lasers (CREOL).

MINOR

The Department of Physics offers a minor consisting of a minimum of 20 semester hours. Required courses: PHY 3048, 3048L, 3049, 3049L, 3101. The remaining 9 semester hours must be selected from appropriate upper level lecture or laboratory courses.
BACHELOR OF SCIENCE: PHYSICS

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
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 2010C General Biology 4 hours
   CHM 2045, 2046, 2046L Chemistry Fundamentals 8 hours
   MAC 3311, 3312, 3313 Calculus with Analytic Geometry 12 hours
   PHY 3048, 3048L Physics For Engineers I & II 8 hours
   PHY 3101 Modern Physics 3 hours
   PHY 3503 Thermodynamics 3 hours
   MAP 3302 Differential Equations 3 hours
   PHY 3320 Electricity, Magnetism & Electromagnetic Waves 3 hours
   CGS 3422 Programming and Numerical Methods 3 hours
   PHZ 3151 Computer Methods in Physics 4 hours
   PHY 3752C Physics of Scientific Instruments 4 hours
   PHY 4220 Mechanics 3 hours
   PHY 4604 Wave Mechanics 3 hours
   PHY 4424 Optics 3 hours
   PHY 3722C Physics Laboratory-Electronics 3 hours
   STA 3032 Probability and Statistics for Engineers 3 hours
   PHY 3802L Intermediate Physics Laboratory 3 hours
   PHY 4803L Advanced Physics Laboratory 3 hours
4. Restricted Electives
   Upper division PHS or PHY courses or those to be used in partial fulfillment of the requirements of a double major. 6 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. No more than 6 hours of research credit may be used. 12 hours
   Total Semester Hours Required 127

DEPARTMENT OF POLITICAL SCIENCE
Chair: J. Lilie, FA 426, Phone (407) 275-2608
Faculty: Bledsoe, Davison, Handberg, Johnson-Freese, Kennedy, S. Lilie, Morales, Perry, Pollock, Stern, Vittes

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 a 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 advisor 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 Politics; and Political Theory.
It is strongly recommended that majors planning to continue their education at the graduate level or to pursue a career in international fields acquire a working knowledge of a foreign language.
Canadian Studies: The Department of Political Science is the main contributor to the Canadian Studies Programme. Interested students should contact Dr. Henry Kennedy.
Latin American Studies: The Political Science Department participates in the Latin American Studies Program. Contact Dr. Waltraud Q. Morales.

Soviet Area Studies: The Political Science Department participates in the Soviet Area Studies program. Consult Dr. Henry Kennedy.

MINOR
The Department of Political Science offers minors consisting of a minimum of 18 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 courses (6 semester hours) from a two-year institution 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.

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 courses (6 semester hours) from a two-year institution 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. See Undergraduate Degree Requirements
   2. See special college and/or department requirements

3. Required Courses
   POS 2041 American National Government 3 hours
   *POS 3703 Scope and Methods of Political Science 3 hours
   *This course should be completed by the second semester of the junior year.

4. Restricted Electives
   Majors must choose from one of the following emphases for a minimum of 30 additional hours.

   Emphasis 1: American Politics and Policy
   Five courses from area A 15 hours
   Two courses from area B 6 hours
   Two courses from area C 6 hours
   One additional course from any area 3 hours

   Emphasis 2: International Relations-Comparative Politics
   Five courses from area B 15 hours
   Two courses from area A 6 hours
   Two courses from area C 6 hours
   One additional course from any area 3 hours

   Emphasis 3: Prelaw
   POS 4284 Judicial Process and Politics 3 hours
   One of the following: 3 hours
   *POS 4603 American Constitutional Law I
   POS 4604 American Constitutional Law II
   INR 4401 International Law I
   INR 4402 International Law II
   *POS 4603 should ordinarily be taken before POS 4604.
   Five courses from either area A or area B 15 hours
   Two courses from area A if area B is chosen above; or 6 hours
   Two courses from area B if area A is chosen above 3 hours
   One course from area C
   Total Hours in Major 36 hours

5. Electives
   Total Semester Hours Required 120
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 Voting and Elections
- POS 3233 Public Opinion
- 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 3204 Environmental Politics
- PUP 4003 American Public Policy
- POS 4622 Politics and Civil Rights
- POS 4445 Comparative Political Parties
- PUP 4503 Government and Science
- PUP 4602 Politics of Health
- POS 4265 Power and Policy in the United States
- POS 4009 Topics in Public Policy

B. International Relations and Comparative Government

- INR 3002 International Relations
- GEO 3470 World Political Geography
- INR 4035 International Political Economy
- INR 4102 American Foreign Policy
- INR 4114 American Defense Policy
- INR 4115 Strategic Weapons and Arms Control
- INR 4224 Contemporary International Politics of Asia
- INR 4243 International Politics of Latin America
- INR 4274 International Politics of the Middle East
- INR 4335 Coercion in International Politics
- INR 4401 International Law I
- INR 4402 International Law II
- INR 4504 International Organizations
- CPO 3034 Politics of Developing Areas
- CPO 3103 Comparative Politics
- CPO 3132 Introduction to Canadian Studies
- POS 3253 Contemporary Revolution and Political Violence
- CPO 4123 Government and Politics of Great Britain
- CPO 4303 Comparative Latin American Politics
- CPO 4643 Government and Politics of the Soviet Union
- CPO 4024 Non-Western Politics
- CPO 4133 Government and Politics of Canada
- PUP 4510 Space Policy

C. Political Theory

- POT 3302 Modern Political Ideologies
- POT 3204 American Political Thought
- POT 4003 Political Theory
- POT 4314 Contemporary Democratic Theory
- POT 4045 Ancient, Medieval and Early Modern Political Philosophy
- POT 4054 Modern Political Philosophy
- POS 4206 Political Psychology
- POS 4252 Politics of the Future
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 usually 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, consult one of the Department's prelaw advisors.

1. Some suggested electives include:
   - ACG 2001: Principles of Accounting I
   - ACG 2011: Principles of Accounting II
   - BUL 3111: Legal Environment of Business
   - ENC 3210: Business Report Writing
   - EUH 2095: Introduction to Anglo-American Law
   - LEA 3011: Legal Research and Writing
   - PHI 2130: Formal Logic I
   - PHI 3131: Formal Logic II
   - MHF 2300: Logic and Proof in Mathematics
   - LIN 4341: Modern English Grammar

INTERNSHIP PROGRAM: POLITICAL SCIENCE

For students who excel, a limited number of internships may be available each semester for 3 to 6 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 consult Dr. Donald Davison.

DEPARTMENT OF PSYCHOLOGY

Chair: R. Tucker, PH 317, Phone (407) 275-2216
Faculty: Abbott, Blau, Brophy, Burr, Burroughs, Connally, Fisher, Gilson, Guest-Houston, Jensen, McGuire, Morgan, Rinalducci, Rollins, Shirkey, Tell, Thomas, Turnage, Wang, Wooten

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. See Undergraduate Degree Requirements
2. See special college and/or department requirements
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
Chair: R. Shapek, PH 116, Phone (407) 275-2603
Faculty: Becker, Brennan, Colby, Cook, Duffey, Holten, Jurie, Kimmitt, Korstad, Lawther, Mahan, Pyle, Slaughter

The Department of Public Service includes three related undergraduate degree programs: Legal Studies Criminal Justice and Public Administration. It also offers the Master of Public Administration degree.

LEGAL STUDIES PROGRAM
The Legal Studies Program provides students with a broad understanding of basic principles of law and the role and function of the legal system. It prepares students for professional positions in law offices, corporations, and public agencies and provides educational experience beneficial to students planning to attend law school. Satisfactory completion of program requirements leads to the degree of Bachelor of Arts with a major in Legal Studies.

BACHELOR OF ARTS: LEGAL STUDIES
Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (24 hours)
   LEA 3001 Law and the Legal System 3 hours
   LEA 3011 Legal Research 3 hours
   LEA 3012 Legal Writing 3 hours
   LEA 3101 Civil Practice and Procedure 3 hours
   LEA 3201 Property and Real Estate Law 3 hours
   LEA 4211 Estates and Trusts 3 hours
   LEA 4301 Contract Law 3 hours
   LEA 4312 Fla. Partnerships and Corporations 3 hours
4. Restricted Electives
   a. Twelve (12) additional semester hours of Legal Studies coursework.
   b. Nine (9) semester hours of supporting courses chosen with the approval of the student's advisor. These courses may be selected from any department or program (including Legal Studies) so long as they are related to the law.
5. Electives
Total Semester Hours Required 120

Legal Studies Minor consists of 18 or more semester hours. Required courses: LEA 3001 plus a minimum of 12 semester hours of legal studies courses and 3 semester hours of law-related courses selected with the aid of an advisor.

CRIMINAL JUSTICE PROGRAM
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. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (12 semester hours)
   - CCJ 3020 Criminal Justice System 3 hours
   - CCJ 3010 Crime in America 3 hours
   - CCJ 3290 Prosecution and Adjudication 3 hours
   - CCJ 3300 Corrections and Penology 3 hours

4. Restricted Electives
   - 24 additional semester hours of CCJ coursework of which at least 21 must be upper division. Seniors can satisfy up to 12 hours of this requirement with internship and up to 6 hours with directed independent study; however, the combination of these non-class options shall not exceed 12 hours. Program standards must be met to be eligible for either internships or independent study credit.
   - 15-16 additional semester hours of 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, legal studies, sociology, statistics, and psychology.

5. Students must take a minimum of 30 hours from the department to obtain the UCF degree in Criminal Justice.

6. Electives
   - Total Semester Hours Required 120

PUBLIC ADMINISTRATION PROGRAM
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. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (27 semester hours)
   - PAD 3003 Introduction to Public Administration 3 hours
   - PAD 4034 Administration of Public Policy 3 hours
   - PAD 4104 Administrative Theory 3 hours
   - PAD 4204 Fiscal Management 3 hours
   - PAD 4414 Public Personnel Administration 3 hours
   - POS 2041 American National Government 3 hours
   - ECO 2013 Principles of Economics I 3 hours
   - CGS 1060 Introduction to Computer Science 3 hours
   - CGS 3000 Computer Fundamentals for Business Application 3 hours
   - STA 2014 Principles of Statistics 3 hours
   - STA 3023 Statistical Methods I 3 hours
   - a course in social science research with an emphasis on statistical methods 3 hours

4. Restricted Electives
   - Thirty (30) additional semester hours taken from: (2) Public Administration electives including the internship; and (2) one or more allied public science fields. All courses are selected with the approval of the student's advisor. Among such supporting fields are accounting, legal studies, communication, computer science, criminal justice, economics, political science, social work, sociology, and statistics.

5. Electives
   - Total Semester Hours Required 120

MINOR
The public administration program offers a minor in public administration consisting of 21 hours:
1. All five of the required core courses for the PAD major will be required of the PAD minor. These are: PAD 3003, PAD 4414, PAD 4104, PAD 4204, and PAD 4034.
2. Two additional courses may be selected from among the list of PAD restricted electives or related courses in other fields. These courses will be chosen with the consent of the PAD undergraduate advisor.

BACHELOR OF SCIENCE: SOCIAL SCIENCES

Contact Person: J. Boyte, FA 208, Phone (407) 275-2492

This unique program offers students an opportunity to become acquainted with the various fields of the Social Sciences and to better understand the relationships between those fields. Satisfactory completion of the program leads to the degree Bachelor of Science with a major in Social Sciences.

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
   None
4. Restricted Electives
   a. Choose one
      POS 3703 Scope and Methods of Political Science 3 hours
      PSY 3214 Research Methods (Psychology) 3 hours
      SYA 3300 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 Economics I 3 hours
   ECO 2023 Principles of Economics II 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 3020 Criminal Justice System 4 hours
   or LEA 3001 Law and the Legal System 4 hours

Sociology
   SYG 2000 General Sociology 3 hours
   ANT 2003 General Anthropology 3 hours

5. Electives
   Total Semester Hours Required 120

DEPARTMENT OF SOCIAL WORK

Chair: K.J. Kazmerski, FA 404, Phone (407) 275-2114
Faculty: Abel, Green, Suh, Tropf

The Department of Social Work offers a professional degree program which is nationally 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, computer science, economics, political science, psychology, and sociology. Applications to this limited access program may be obtained at the Department of Social Work.
BACHELOR OF SOCIAL WORK

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (45 hours)
   - SOW 3104 Assessing Human Development 3 hours
   - SOW 3191 Assessing Human Systems 3 hours
   - SOW 3203 Social Welfare and Community Resources 3 hours
   - SOW 3232 Social Welfare Policies and Issues 3 hours
   - SOW 3403 Social Work Research 3 hours
   - SOW 4431 Evaluating Social Work Practice and Service Programs 3 hours
   - SOW 3300 Generalist Practice in Social Work 3 hours
   - SOW 3352 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 4510 Field Education 9 hours
   - SOW 4522 Field Education Seminar 3 hours
4. Electives
   Social Welfare Enhancement Options
   - 3 hours
   - 3 hours
   - 3 hours
   - 3 hours
   - 3 hours
   - 3 hours
   - 9 hours
   - 3 hours
   Total Semester Hours Required 120

Social Welfare Enhancement Options
Students desiring additional studies in a social welfare area must satisfy the requirements of the basic curriculum while concurrently completing a minimum of 21 hours in the optional area.
1. Child Welfare Option
   - SYO 4100 The Family 3 hours
   - SOW 4654 Children's Services 3 hours
   - EDF 3603 Analysis of Educational Foundations 3 hours
   or
   - EDF 4003 Overview of Education 3 hours
   Elective from approved list -- see advisor 3 hours
   In addition, SOW 4510 Field Education must be completed in a child welfare agency 9 hours
2. Gerontology Certificate Program
   See page 170, Office of Undergraduate Studies
3. Health Services Option
   - SYO 4400 Medical Sociology 3 hours
   - HSA 4120 Community and Public Health Services 3 hours
   or
   - HSA 4121 History and Future of Health Care 3 hours
   - SOW 4602 Social Work in Health Settings 3 hours
   Elective in health studies 3 hours
   In addition, SOW 4510 Field Education must be completed in a health setting 9 hours

DEPARTMENT OF SOCIOLOGY AND ANTHROPOLOGY

Chair: D. Fabianic, FA 402, Phone (407) 275-2227
Faculty: Allen, Bridges, W. Brown, A. Chase, D. Chase, Cook, Dees, Hodgin, D. Jones, Miller, Stearman, Unkovic, Wallace

The Department of Sociology and Anthropology offers a Bachelor of Arts in Sociology and Anthropology. Students should consult with their advisor early in their academic careers to select an area of specialization within the Department or if they plan to pursue graduate work.

MINORS
The Department offers the following minors:
1. Anthropology
   Required Courses: ANT 3000, 3410, 3422, ANT 3511, twelve additional hours to be
taken in consultation with the student’s advisor. No more than two courses can be transferred from other Sociology/Anthropology Departments. The minimum number of semester hours required - 21.

2. Sociology

Required Courses: SYG 2000, SYO 3000, and SYA 3110 or SYA 3120; and a minimum of 9 semester hours of Sociology courses. 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. The minimum number of semester hours required - 18.

BACHELOR OF ARTS: SOCIOLOGY

Degree Requirements

The Sociology curriculum is designed to provide students a basic curriculum which emphasizes critical examination of various components of society. The purpose of the curriculum is to increase students' social awareness and ability to employ a sociological perspective to interpret social institutions and behavior. A minimum of 44 semester hours is required for a major. In addition, one course in statistics is required.

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (23 semester hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYG 2000</td>
<td>General Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SYO 3000</td>
<td>Modern Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SYA 3110</td>
<td>Development of Social Thought</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
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<tr>
<td>SYA 3120</td>
<td>Modern Sociological Thought</td>
<td>3</td>
</tr>
<tr>
<td>SYA 3300</td>
<td>Research Methods</td>
<td>4</td>
</tr>
<tr>
<td>SYO 3360</td>
<td>Social Organization &amp; Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYP 4000</td>
<td>Sociological Social Psychology</td>
<td>3</td>
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<tr>
<td>SYA 4450</td>
<td>Data Analysis (PR: Course in Statistics)</td>
<td>4</td>
</tr>
<tr>
<td>SYA 4650</td>
<td>Applied Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

One course in Statistics

(After the required courses are completed, remaining courses listed in the required course category may be taken and will be credited in the Social Processes and Institutions category.)

4. Restricted Electives

Majors must choose from one of the following emphases for a minimum of 21 semester hours.

A. General Sociology Emphasis. Students are required to take 6 semester hours from the Deviant Behavior and Social Problems category, and 15 semester hours from the Social Processes and Institutions category; or, students may take 15 semester hours from the Social Processes and Institutions category, and a minimum of 6 semester hours of Sociology Internship.

B. Deviant Behavior and Social Problems Emphasis. Students are required to take 15 semester hours from the Deviant Behavior and Social Problems category and 6 semester hours from the Social Processes and Institutions category; or, students may take 15 semester hours from the Deviant Behavior and Social Problems category and a minimum of 6 semester hours of Sociology Internship.

Areas of Emphasis

Social Processes and Institutions

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYD 3410</td>
<td>Urban Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SYD 3700</td>
<td>Race and Ethnic Minorities in the U.S.</td>
<td>3</td>
</tr>
<tr>
<td>SYD 3800</td>
<td>Sex Roles in Modern Society</td>
<td>3</td>
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<tr>
<td>SYP 3650</td>
<td>Sociology and Sport</td>
<td>3</td>
</tr>
<tr>
<td>SYD 4020</td>
<td>Population</td>
<td>3</td>
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<tr>
<td>SYD 4680</td>
<td>Soviet Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SYO 3530</td>
<td>Social Stratification</td>
<td>3</td>
</tr>
<tr>
<td>SYO 4100</td>
<td>The Family</td>
<td>3</td>
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<tr>
<td>SYO 4250</td>
<td>Sociology of Education</td>
<td>3</td>
</tr>
<tr>
<td>SYO 4300</td>
<td>Political Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SYO 4370</td>
<td>Sociology of Occupations &amp; Professions</td>
<td>3</td>
</tr>
</tbody>
</table>
SYO 4400 Medical Sociology 3 hours
SYP 3300 Collective Behavior 3 hours

Deviant Behavior and Social Problems
SYP 3400 Social Change 3 hours
SYG 3010 Social Problems 3 hours
SYO 3410 Sociology of Mental Illness 3 hours
SYP 3510 Sociology of Deviant Behavior 3 hours
SYP 3520 Criminology 3 hours
SYP 3530 Juvenile Delinquency 3 hours
SYP 3551 Sociology of Alcoholism 3 hours
SYP 3450 Sociology and Law 3 hours
SYP 4550 Sociology of Drug Abuse 3 hours
SYP 4730 Sociology of Aging 3 hours

Eligible students may enroll for 3 to 16 semester hours of Internship. Arrangements for Internship are coordinated by the Department.

5. Electives

BACHELOR OF ARTS: ANTHROPOLOGY

Degree Requirements
Anthropology offers the Bachelor of Arts degree. In keeping with the holistic nature of the discipline, students are required to pursue a course of study which leads to the comprehension of traditional subfields of Anthropology. The recognized subfields of Anthropology are Cultural Anthropology, Archaeology, Physical Anthropology, and Linguistics. Area studies concerned with North American Indians, Mesoamerican Civilization, and Latin American Culture are available. Students majoring or minoring in Anthropology with sufficient course background are provided an opportunity to participate in ongoing archaeological excavations associated with the Maya culture in the Central American country of Belize.

A minimum of 45 semester hours is required for a degree. All Anthropology courses are 3 semester hours with the exception of ANT 4124, which is 9 semester hours.

Degree Requirements
1. See Undergraduate Degree Requirements
2. Special college and/or department requirements
3. Required Courses (21 hours)
   - ANT 3000 Human Origins (Anthropology I)
   - ANT 3410 Cultural Anthropology (Anthropology II)
   - ANT 3511 The Human Species (Anthropology III)
   - ANT 3145 Archaeology of Complex Societies
   - ANT 3422 Peoples of the World
   - ANT 3610 Language and Culture
   - ANT 4084 Anthropological Method and Theory
4. Restricted Electives (24 hours)
   Area Studies (Select three)
   - ANT 3153 Archaeology of North America
   - ANT 3162 Archaeology of Middle and South America
   - ANT 3163 Mesoamerican Archaeology
   - ANT 3311 Indians of the Southeastern United States
   - ANT 3312 Ethnology of North American Indians
   - ANT 3313 Indians of the North American High Plains
   - ANT 3328 Maya Archaeology
   - ANT 3332 Peoples and Cultures of Latin America
   - ANT 3360 Peoples of the Far East
   - ANT 3363 Anthropology of Japan

Specialized Studies (Select five)
Cultural
   - ANT 3302 Sex, Gender, and Culture
   - ANT 3241 Magic, Ritual, and Belief
   - ANT 3432 Culture and the Individual
   - ANT 3418 Aging and Death
   - ANT 3262 Rural Society
   - ANT 3271 Law and Culture
   - ANT 3705 Action Anthropology

Total Semester Hours Required 120
Archaeology
ANT 3122 Archaeological Method and Theory
ANT 3141 The Emergence of Civilizations
ANT 3142 Old World Prehistory
ANT 3144 Prehistory of the American Indians
ANT 4124 Advanced Archaeological Fieldwork
ANT 4180 Seminar in Laboratory Analyses
ANT 4930 Selected Topics in Archaeology

Physical
ANT 3462 Medical Anthropology
ANT 3464 Human Microevolution
ANT 3512 Biobehavioral Anthropology
ANT 3552 Primatology

5. Electives
ANT 2003 General Anthropology (recommended for non-majors)
ANT 5479 Comparative Cultural Analysis
ANT 5937 Proseminar in Anthropology

Total Semester Hours Required 120

DEPARTMENT OF STATISTICS
Chair: L. Malone, BL 330, Phone (407) 275-2289
Faculty: Cutchins, A. Dutton, Kazempour, Kheoh, Kraemer, Richardson, J. Schott, S. Schott, P. Somerville, Wildman-Pepe

The Department of Statistics offers courses and programs which lead to a Bachelor of Science in Statistics, a minor in statistics, and a Master of Science in Statistical Computing. (See the Graduate Studies catalog for a description of the M.S. in Statistical Computing.)

The undergraduate programs in statistics are designed to serve (1) students who wish to pursue careers in statistics after having completed a baccalaureate degree; (2) students who wish to continue their education in graduate or professional schools; and (3) students who need to use 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 Statistics have developed along several lines. There are the usual service courses in elementary statistics along with strong programs in the upper division in statistical methods, statistical theory, and statistical computing.

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

MINOR
The Department of Statistics offers a minor (with a minimum of 18 hours). Required Courses: STA 3023 or STA 3032 or equivalent; STA 4163, STA 4164, and one of the following: STA 4222 or STA 4502. A grade of C or higher is required in each course counting toward a minor.

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 STA 3023 or STA 3032 must be taken from the Department of Statistics at U.C.F. unless substitutes are approved by the Department Standards Committee.

BACHELOR OF SCIENCE: STATISTICS

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
   (a) All statistics courses except STA 3023 or STA 3032 must be taken from the Department of Statistics at UCF unless substitutes are approved by the Department Standards Committee.
   (b) To meet the College of Arts and Sciences requirement for Natural Science majors, a Statistics major must take one course from one group (A or B) and two courses from the other group, with at least one laboratory in each group. Any additional science course in the College of Arts and Sciences of any level or any course in the College of Health numbered 3000 or higher will count as the fourth required course.
Group A
BOT 2010C
BSC 2010C
ZOO 2010C

Group B
CHM 2045
CHM 2046 and CHM 2046L
PHY 2053C
PHY 2054C

(NOTE: If both CHM 2046 and CHM 2046L are taken, they will only count as "one" course in satisfying the above requirement. CHM 2046L by itself will not count as a course.)

(c) A grade of C or higher is required in all STA courses counting towards a statistics major.

(d) A 2.0 average or higher is required in all computer science and mathematics courses that count toward a statistics major.

3. Required Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
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<tr>
<td>STA 3023</td>
<td>Statistical Methods I</td>
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<td>STA 4664</td>
<td>Statistical Quality Control</td>
<td>3</td>
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<tr>
<td>STA 4102</td>
<td>Computer Processing of Statistical Data</td>
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<tr>
<td>STA 4163</td>
<td>Statistical Methods II</td>
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<tr>
<td>STA 4164</td>
<td>Statistical Methods III</td>
<td>3</td>
</tr>
<tr>
<td>STA 4222</td>
<td>Sample Survey Methods</td>
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<tr>
<td>STA 4321</td>
<td>Statistical Theory I</td>
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<tr>
<td>STA 4322</td>
<td>Statistical Theory II</td>
<td>3</td>
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<tr>
<td>STA 4502</td>
<td>Nonparametric Statistical Methods</td>
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<tr>
<td>CNM 4500</td>
<td>Numerical Calculus</td>
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<tr>
<td>COP 2000</td>
<td>Programming I</td>
<td>3</td>
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<tr>
<td>COP 2001</td>
<td>Programming II</td>
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<td>MAC 3311</td>
<td>Calculus with Analytic Geometry I</td>
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<td>MAC 3313</td>
<td>Calculus with Analytic Geometry III</td>
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<tr>
<td>MAS 3103</td>
<td>Linear Algebra</td>
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<tr>
<td>MAC 3113</td>
<td>Matrices</td>
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<tr>
<td>COT 3100</td>
<td>Introduction to Discrete Structure</td>
<td>3</td>
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<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MHF 2300</td>
<td>Logic and Proof in Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>ENC 3241</td>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Restricted Electives
A minimum of 6 hours selected from upper division or graduate statistics, mathematics, or computer science courses. (COC 3024; MAC 3233, 3253, 3254; all MAE courses; and MHF 4404 may not be used.)

Selected courses in engineering may be used but must first be approved by the Statistics Department Standards Committee.

5. Electives
The number of hours depends on the courses chosen to satisfy university requirements.

Total Semester Hours Required: 120

DEPARTMENT OF THEATRE

Director: H. Smith, TH 120, Phone (407) 275-2861
Faculty: McKay, Rusnock

The Department of Theatre offers the student an opportunity to concentrate in the area of theatre either as 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. Successful completion of the theatre degree is contingent upon the student's continuing participation in Department productions.

MINOR

The Department of Theatre offers a minor consisting of a minimum of 29 hours, as follows: THE 1020, THE 2071, THE 2925, THE 3370 or THE 3112 or THE 3113, TPA 2210, TPA 3060, or TPP 3310, TPP 2110, DAA 3200 and 6 hours of 3000/4000 level theatre electives.
BACHELOR OF ARTS: THEATRE

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses (31 semester hours)

- DAA 3200 Dance I 3 hours
- THE 1020 Theatre Survey 3 hours
- THE 2071 Cinema Survey 3 hours
- THE 2925 Theatre Practicum I 2.2 hours
- THE 3112 Theatre History I 3 hours
- THE 3113 Theatre History II 3 hours
- TPA 2210 Technical Theatre Production I 3 hours
- TPA 2211 Technical Theatre Production II 3 hours
- TPP 2110 Acting I 3 hours
- TPP 3310 Directing I 3 hours

AREAS OF CONCENTRATION

Program "A" Performance

- THE 3305 Drama Analysis 3 hours
- THE 3925 Theatre Practicum II 2 hours
- TPP 3111 Acting II 3 hours
- TPP 4150 Scene Study and Character Dev. 3 hours
- TPP 4260 Acting III 3 hours
- TPP 4311 Directing II 3 hours

Suggested Electives: Theatre and Related Courses 12 hours

Program "B" Technical Theatre & Design

- THE 3260 Theatrical Costume History and Design 3 hours
- THE 3925 Theatre Practicum II 2 hours
- TPA 3060 Scene Design 3 hours
- TPA 3081 Scene Painting 3 hours
- TPA 3220 Stage Lighting 3 hours
- TPA 3221 Lighting Design 3 hours
- TPA 4061 Advanced Design 3 hours

Suggested Electives: Theatre and Related Courses 9 hours

Program "C" Film

- THE 3251 History of Motion Picture 3 hours
- THE 4072 Principles of Motion Picture Art 3 hours
- THE 4073 Film Production 3-6 hours
- TPA 3060 Scene Design 3 hours
- TPA 3220 Stage Lighting 3 hours

Special Topics and/or Independent Study in Film 3-6 hours

Suggested Electives

Approved ART, RTV, or THE courses 6 hours

4. Restricted Electives

5. Electives—see each program for suggested electives

Total Semester Hours Required 120

PRE-HEALTH PROFESSIONS PROGRAMS ADVISEMENT OFFICE

Preprofessional Coordinator: O.M. Berringer, BL 103, Phone (407) 275-2968

The Office of Pre-Health Professions Advisement has been created to operate as a service to all students preparing for and seeking admission to professional schools of dentistry, medicine, osteopathic medicine, optometry, pharmacy, podiatry, and veterinary medicine. The services afforded the student through this office are numerous and range from basic advising and counseling in preprofessional matters to providing a Composite Evaluation of the student (upon his/her request) to each professional school to which he/she desires to apply. However, in order to be considered for a Composite Evaluation, the student must have a minimum overall GPA of 2.8 and at least 30 semester hours of typical undergraduate preprofessional courses taken at UCF by the end of the Spring Semester.
preceding his/her application to the professional schools, usually between the junior and senior year. Additionally, all preprofessional students are strongly encouraged to affiliate with and participate in the activities of the Preprofessional Medical Society.

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, approximately 91 percent of all premedical and 95 percent of all premedical students accepted throughout the nation each year have completed four years of college. Consequently, since pathways such as "premed" do not lead to a degree, each professional 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 adequately 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 each term, with the exception of summer terms.

CURRICULA GUIDELINES

All preprofessional students are strongly encouraged to enroll in SLS 2311, OVERVIEW OF SELECT MEDICAL CAREERS, the first Fall semester they are enrolled. This course provides a broad exposure to guest speakers representing the various four-year health professions. In addition, the entire preprofessional process (academic preparation, applications, prescreening, interviews, admission exams, admissions, scholarships etc.) is explained in depth. Following this awareness, students are prepared to make informed decisions relative to planning their preprofessional studies.

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 2010C, ZOO 2010C
- Genetics, PCB 3063 and 3063L
- General Chemistry, CHM 2045, 2046, 2046L
- Organic Chemistry, CHM 3210, 3211, 3211L
- Microbiology, MCB 3013C
- 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 3048, 3048L, 3049L, is preferable)
- Statistics, STA 3023
- Additional required/strongly recommended courses not common to all preprofessional students are the following:

Premedical and predental students should take
- Cell Physiology, PCB 3023
- Comparative Anatomy, ZOO 3713C
- Embryology, ZOO 4603C
- Histology, ZOO 4753C
- Microbiology, MCB 3203C, and PCB 3233
- Analytical Chemistry, CHM 3121C plus either (or both) Biochemistry, BCH 4053, 4054, or Physical Chemistry, CHM 3410.
- Physics of Scientific Instruments, PHY 3752C.
Preoptometry students must take
General Botany, BOT 2010C
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 2010C
Microbiology, MCB 3203C and it is strongly recommended they take Physics of Scientific Instruments, PHY 3752C; Histology, ZOO 4753C; and Biochemistry, BCH 4053

Preveterinary students must take
General Botany, BOT 2010C
Analytical Chemistry, CHM 3121C
Microbiology, MCB 3203C
*Animal Science, ASG 3003, and ASG 3402. *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 4753C), Embryology (ZOO 4603C) and Physics of Scientific Instruments (PHY 3752C) are strongly recommended. Biochemistry (BCH 4053) would also be very helpful.

Meaningful Electives:
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: (ACG 2001 and 2011) or ACG 3023.
Biochemistry: BCH 4053
Communication: SPC 3301 or 4330.
Health Sciences: APB 3600; HSC 3122; 3110; 4411; SPA 3001
Human Anatomy: ZOO 3733C
Literature: LIT 2110 and 3120.
Management: GEB 3004.
Philosophy: PHI 3600; 3630; 3930.
Political Science: PUP 4602.
Psychology: CLP 3143; DEP 3004; 3202; 3212; EAB 3704; DEP 3464; PSB 3002; 3442; 4013C; PCO 4203.

ADMISSIONS EXAMINATIONS
Various 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 or VAT]. 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.
There are numerous support systems available for review. All applicants are encouraged to maximize their preparation before registering to take the exam the first time.

RELATED REFERENCES
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, 1625 Massachusetts Avenue, N.W., Washington, D.C. 20036;
2. Medical School Admission Requirements, United States and Canada, published by the Association of American Medical Colleges; One Dupont Circle, N.W., Washington, D.C. 20036;
4. Information for Applicants to Schools and Colleges of Optometry, published by the Association of Schools and Colleges of Optometry; 213 East Ohio Street, Chicago, Illinois 60611;
5. *Pharmacy School Admission Requirements*, published by the American Association of Colleges of Pharmacy; 1730 "M" Street, N.W., Washington, D.C. 20036;


7. *Veterinary Medicine, A Career Of Choices: A Handbook for advisors*, prepared by the Office of Student Affairs and Admissions, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York 14853.

Each preprofessional student is encouraged to obtain a copy of the admissions publication appropriate to his/her preprofessional area. Several of these publications are available in the University bookstore. Examination copies are available in the Pre-Health Professions Advisement Office, BL 103.

**Other Health Professions**

For Nursing and other Allied Health Services, see College of Health.
UNDERGRADUATE PROGRAMS
Accounting (BSBA)
Economics (BSBA)
Finance (BSBA)
General Business Administration (BSBA)
Management (BSBA)
Marketing (BSBA)

GRADUATE PROGRAMS*
Accounting (MS)
Applied Economics (MA)
Business Administration (MBA, Ph.D.)
Taxation (MS)

*See the Graduate catalog for information.
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/her choice and to become a valuable member of society. All undergraduate and graduate programs are accredited by the American Assembly of Collegiate Schools of Business (AACSB).

Admission to the University of Central Florida does not imply admission to the College of Business Administration. Students will only be allowed to enroll in the 3000/4000 level courses taught by the College of Business Administration after they have been admitted to the College. Admission to the College will be granted only after the University General Education program has been completed to include the computer science, college algebra, and statistics requirements. In addition, the basic Accounting and Economics sequence must be completed. A grade of "C" or better must be achieved in each of the following courses: ACG 2001 and 2011, or ACG 3023, ECO 2013 and 2023, ENC 1101 and 1102, MAC 1104, STA 3023, and CGS 3000. Students who otherwise meet the University admission requirements, such as entering freshmen and transfer students, will be placed in Business Administration pending category until they meet the requirements set forth above. Each student should meet with an academic advisor in the College of Business Administration to outline a program of study.

The degree Bachelor of Science in Business Administration with the following majors is offered by the College of Business Administration:

- Accounting
- General Business Administration
- Economics
- Management
- Finance
- Marketing

**COMMON BODY OF KNOWLEDGE**

The following common course work, required of all majors, provides a foundation in the major areas of business administration.

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ACG 2001</td>
<td>Principles of Accounting I</td>
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<tr>
<td>ACG 2011</td>
<td>Principles of Accounting II</td>
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<td>ACG 3023</td>
<td>Principles of Accounting I &amp; II</td>
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<td>ECO 2013</td>
<td>Principles of Economics I</td>
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<td>ECO 2023</td>
<td>Principles of Economics II</td>
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<tr>
<td>BUL 3111</td>
<td>Legal Environment of Business</td>
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<tr>
<td>ENC 3210</td>
<td>Business Report Writing</td>
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<tr>
<td>MAC 3233</td>
<td>Concepts of Calculus</td>
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<tr>
<td>STA 3023</td>
<td>Statistical Methods I</td>
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<tr>
<td>ECO 3411</td>
<td>Quant. Methods &amp; Bus. Decisional Anal.</td>
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<td>CGS 3000</td>
<td>Comp. Fund. for Business App.</td>
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<td>FIN 3403</td>
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<tr>
<td>MAN 3025</td>
<td>Management of Organizations</td>
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<td>MAR 3023</td>
<td>Marketing</td>
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<td>MAN 3504</td>
<td>Production/Operations Management</td>
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<td>Business in the International Environment</td>
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<td>MAN 4720</td>
<td>Business Policies</td>
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Students in the College of Business Administration cannot receive credit for the following courses: GEB 3004, 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 except in accounting where a "C" or better is required in each course.

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 chair 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
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 (Restricted to Business Majors)

The College of Business Administration offers a minor in International Business consisting of 18 semester hours.

Required Courses: GEB 4351, ECO 3702, FIN 4624, MAR 4243; Electives: 6 hours of the following courses - ACG 5255, ANT 3410, ECS 4003, ECS 4013, GEO 3470, INR 4035, INR 4401, INR 4224, INR 4243, INR 4274; Special Topics Seminars in International Business; 3000/4000 level foreign language course.

MINOR (not open to Business Majors)

The College of Business Administration offers a minor consisting of 24 semester hours. (Nine semester hours of upper division business courses must be completed at UCF.)

Required courses: ACG 2001, 2011, or ACG 3023; ECO 2023, 2013; FIN 3403; MAN 3025; MAR 3023; one 3000/4000 level business course elective. A GPA of 2.0 is required for these courses. GEB 3004 may not be used as the business course elective. Nine (9) semester hours must be taken at UCF.

SCHOOL OF ACCOUNTING

Director: H. Anderson, PH 417, Phone (407) 275-2463
Faculty: Avery, Bandy, Clark, Danese, Gist, Holstrum, Hunt, W. Johnson, Judd, Kaminsky, Kelliher, Klintworth, Landry, Phillips, Robertson, J. Salter, M. Salter, Savage, Taylor, Veit, D.L. Yon

OBJECTIVES OF ACCOUNTING PROGRAMS

The objective of the baccalaureate program with a concentration in accounting 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 and tax course completed. Principles of Accounting I and II are included under this rule.

b. A transfer student to this program must:
   (1) take a minimum of twelve (12) semester hours in accounting at the University of Central Florida as approved by the director of the School of Accounting.
   (2) have credit for a course in each of the following areas:
      a. English communication arts including written composition
      b. Oral expression
      c. Behavioral sciences such as psychology, anthropology, and sociology
      d. Humanities
      e. Political and legal environment of business and society such as political science, public administration, and ethics.
BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: ACCOUNTING

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
   a. Business College Common Body of Knowledge*
   b. ACG 3103 Financial Accounting I 3 hours
      ACG 3113 Financial Accounting II 3 hours
      ACG 3361 Cost Accounting I 3 hours
      ACG 3501 Financial Accounting for Governmental and Nonprofit Organizations 3 hours
      ACG 3401 Acc Info Systems I 3 hours
      TAX 4001 Federal Income Tax I 3 hours
      ACG 4123 Financial Accounting III 3 hours
      ACG 4203 Financial Accounting IV 3 hours
      ACG 4651 Auditing 3 hours
      BUL 3112 Business Law I 3 hours
      BUL 3121 Business Law II** 3 hours
4. Restricted Electives:
   ECP 4703 Managerial Economics 3 hours
   FIN 4430 Asset Selection Management 3 hours
   or
   FIN 4431 Financial Structure Management 3 hours
5. Electives: As necessary to result in 126 total credit hours.
   Total Semester Hours Required 126

*Except BUL 3111, Legal Environment of Business, which is satisfied by taking BUL I & II.
**Transferable only from senior academic institutions.

CPA EXAMINATION REQUIREMENTS
Effective August 31, 1983, Florida Law states that to qualify to sit for the CPA exam, one must possess thirty (30) additional semester hours of credit beyond the requirements for the baccalaureate degree. In addition to this overall educational requirement, the following specific criteria also apply:
36 hours in accounting beyond elementary, including at least:
12 hours in financial and cost accounting
6 hours in auditing and internal auditing
6 hours in tax
AND
39 hours in general business including at least six hours of business law. Because of these increased educational requirements, no experience or additional course work is needed for certification.
To satisfy the necessary coursework required by the law, the School of Accounting offers the MASTER OF SCIENCE IN ACCOUNTING (MSA) degree program. Please see the graduate catalog for program requirements.

DEPARTMENT OF ECONOMICS
Chair: B. Rungeling, PH 444, Phone (407) 275-2465
Faculty: Braun, Day, Euzent, Fritz, Gibbs, D. Hosni, Joseph, Kilbride, Martin, McHone, Pennington, Raffa, White, 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 3703, 4224, 4303, 4412, 4504; ECP 3203, 3424, 3433, 4403, 4603, 4703; ECS 4003, 4013.

BACHELOR OF SCIENCE IN BUSINESS
ADMINISTRATION: ECONOMICS

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
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 3703 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 4603 Urban and Regional Economic 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

Chair: H.S. Lewis, PH 436, Phone (407) 275-2525
Faculty: Atkinson, Cheney, DeWitt, Graham, Klock, LeBlanc, Madura, McQuillen, Modani, Neustel, Reiff, Scott, Spudeck, Veit, Weaver

The program in finance is designed to provide the student with a broad knowledge in the areas of business finance, investments, financial institutions, insurance, risk management, and real estate. The program provides the students 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.

The Department of Finance at the University of Central Florida offers "financial services" as an area of concentration within the finance major. This program has been initiated in response to the growing demand throughout the country for professionals who are knowledgeable in all areas of personal financial planning and management. These areas include investments, real estate, insurance, taxes, and estate planning.

BACHELOR OF SCIENCE IN BUSINESS
ADMINISTRATION: FINANCE

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
   a. Business College Common Body of Knowledge
      FIN 3502 Investments 3 hours
      FIN 3453 Financial Models 3 hours
      FIN 3233 Money and Banking 3 hours
   b. Select one of the following:
      FIN 4430 Asset Selection Management* 3 hours
      FIN 4431 Financial Structure Management* 3 hours
   c. Select one of the following:
      FIN 3502 Investments 3 hours
      FIN 3453 Financial Models 3 hours
      FIN 3233 Money and Banking 3 hours
      FIN 4430 Asset Selection Management* 3 hours
      FIN 4431 Financial Structure Management* 3 hours

4. Restricted Electives (Select 4 courses)
   FIN 3303 Financial Institutions 3 hours
   FIN 3324 Commercial Bank Administration 3 hours
   FIN 4126 Seminar in Financial Services 3 hours
   FIN 4127 Employee Benefits and Retirement Planning 3 hours
   FIN 4430 Asset Selection Management* (if not used above in 3) 3 hours
   FIN 4431 Financial Structure Management* (if not used above in 3) 3 hours
   FIN 4520 Security Analysis and Portfolio Management 3 hours
   FIN 4624 International Financial Management 3 hours
   REE 3043 Fundamentals of Real Estate 3 hours
   REE 4303 Real Estate Investment Analysis 3 hours
   RMI 3011 Principles of Risk and Insurance 3 hours

5. Electives
   Total Semester Hours Required 120

*May not be used twice.

FINANCIAL SERVICES CONCENTRATION

Students graduating from UCF with a BSBA degree with a major in finance and a concentration in financial services will be awarded a certificate of program completion in addition to their diploma.

The following course requirements must be met by the student in addition to the General Education Program and Common Body of Knowledge:

Required Courses
   FIN 3453 Financial Models 3 hours
   FIN 3502 Investments 3 hours
   FIN 3303 Financial Institutions 3 hours
   REE 4303 Real Estate Investment Analysis 3 hours
   RMI 3011 Principles of Risk and Insurance 3 hours
   TAX 3000 Personal Income Tax 3 hours
   FIN 4127 Employee Benefits, Retirement Planning 3 hours
   FIN 4126 Seminar in Financial Services 3 hours

Restricted Electives (Select at least one course)
   FIN 3233 Money and Banking 3 hours
   FIN 3324 Commercial Bank Administration 3 hours
   FIN 4520 Sec. Analysis and Port. Management 3 hours

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. Undergraduate Degree Requirements
2. See special college and/or department requirements
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  

DEPARTMENT OF HOSPITALITY MANAGEMENT  
(Please see information listing in Office of Undergraduate Studies section.)  

DEPARTMENT OF MANAGEMENT  
Chair: H. Jones, PH 343, Phone (407) 275-2376  
Faculty: Berry, Bogumil, Burnette, Callarman, Eubanks, Fandt, Fernald, Goodman, Leigh, P. Lewis, Martin, McCartney, Ragusa, Richardson, Souder, Stevens  
The study 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. See Undergraduate Degree Requirements  
2. See special college and/or department requirements  
3. Required Courses. (Students are required to take the two required Management electives and five other courses from the designated Management options.)  
   a. Business College Common Body of Knowledge  
   b. ISM 3011 Management Information Systems  
      MAN 4240 Organization Theory and Behavior  
4. Restricted Electives (Select a minimum of five courses)  
   (The major should select one of the following concentration areas and take the designated five courses.)  
   a. Human Resource Management  
      MAN 3301 Personnel Management  
      MAN 4150 Human Relations in Management  
      MAN 4310 Personnel Management Issues  
      MAN 4350 Training and Development  
      MAN 4401 Labor Relations Management  
   b. Management Information Systems  
      COP 3120 Business Programmers in COBOL  
      ISM 4212 Data Base Management Systems  
      ISM 4113 Information Systems Analysis and Design  
      ISM 4130 Implementation Information Systems  
      ISM 4090 Seminar in Management Information Systems  

Total Semester Hours Required 120
Production/Operations Management
MAN 4420 Management of Service Organizations 3 hours
MAN 4521 Production Planning and Control 3 hours
MAN 4590 Procurement Management 3 hours
MAN 4854 Management Science 3 hours
One additional MAN or ISM course.

d. General Management
MAN 4120 Business and Society 3 hours
MAN 4600 International Management 3 hours
Three additional MAN or ISM courses 9 hours

5. Electives
Total Semester Hours Required 120

DEPARTMENT OF MARKETING
Chair: A. Burns, PH 410, Phone (407) 275-2108
Faculty: Davis, Fuller, Gillett, Jaruis, Joyce, Krainik, Patton, Paul, Rubin, Teeple

Marketing encompasses the total system of interacting business activities designed to plan, price, promote, and distribute products and services to 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 distribution.

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION: MARKETING

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
   a. Business College Common Body of Knowledge
   b. MAR 3503 Consumer Market Behavior 3 hours
      MAR 3613 Marketing Research 3 hours
      MAR 3722 Marketing Management 3 hours
      MAR 4713 Marketing Strategy 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  Marketing Channel Systems  3 hours
   MAR 4243  International Marketing  3 hours
   MAR 4453  Industrial Marketing  3 hours
   MAR 4703  Contemporary Marketing Issues  3 hours
   MAR 4941  Internship  3-6 hours

5. Electives

   Total Semester Hours Required  120
UNDERGRADUATE PROGRAMS

**Art Education (BS)**
**Business Education (Comprehensive) (BS)**
Elementary Education (BS)
English Language Arts Education (BS)
Exceptional Child (BS)
Foreign Language Education (BS)
Mathematics Education (BS)
Physical Education (BS)
Science Education (BS)
Social Science Education (BS)
**Speech Education (BS)**
Technical/Vocational Education (BS)

GRADUATE PROGRAMS*

Masters Programs
Administration & Supervision (MA) (M.Ed)
**Art Education (MA) (M.Ed)**
**Business Education (Comprehensive) (MA) (M.Ed)**
Counselor Education (MA) (M.Ed)
Educational Media (M.Ed)
Elementary Education (MA) (M.Ed)
English Language Arts Education (MA) (M.Ed)
Exceptional Child (MA) (M.Ed)
Instructional Systems (MA)
Mathematics Education (MA) (M.Ed)
Music Education (M.Ed)
Physical Education (MA) (M.Ed)
Reading Specialist (M.Ed)
School Psychology (MS)
Science Education (MA) (M.Ed)
Social Science Education (MA) (M.Ed)
Vocational Education (MA) (M.Ed)

Doctoral and Specialist Programs
Administration & Supervision (Ed.D) (Ed.S)
Curriculum and Instruction (Ed.D) (Ed.S)

*See the Graduate catalog for information

**Students will not be admitted to these programs during the 1988-1989 academic year. More information may be obtained from the office of the Dean of the College of Education, (407) 275-2366.
The undergraduate role of the College of Education is to provide programs for individuals interested in careers as teachers of elementary, secondary and/or exceptional students. The degree of Bachelor of Science is offered by the College of Education with the following majors:

- **Art Education**
- **Business Education**
- Educational Media Specialist
- Elementary Education
- English Language Arts Education
- Exceptional Child Education
- Foreign Language Education
- Mathematics Education
- Physical Education
- Science Education
- Social Science Education
- **Speech Education**
- Technical/Vocational Education

**Students will not be admitted to these programs during the 1988-89 academic year. More information may be obtained from the office of the Dean of the College of Education, (407) 275-2366.**

The program combines general education, a subject matter specialization and a sequence of professional education courses and experiences necessary for preparing students to qualify for teacher certification and entry into the profession of teaching.

The professional sequence provides students an opportunity to translate classroom learning into practice through planned learning experiences in elementary or secondary school settings. Public schools in Central Florida serve as the University Laboratory for students preparing for careers in teaching and those seeking other careers in schools.

The professional sequence of courses and field laboratory experiences are designed to address the competencies required for initial certification and include particular attention to the following:

- knowledge about the growth and development of children and youth
- knowledge of how children and youth learn
- knowledge and skills for accurately measuring student performance
- knowledge of the role and function of schools in a free society
- designing educational teaching objectives
- designing and implementing effective teaching strategies
- utilizing computers and other forms of instructional technology

**PROGRAMS FOR POST BACCALAUREATE STUDENTS**

Students who have earned a Bachelor's degree may complete course requirements for teaching in Florida by enrollment as a Post Baccalaureate non-degree seeking student. Post Baccalaureate students are admitted to the University and to the College of Education by receipt of an application and transcript, and the achievement of a 2.5 GPA in the area of undergraduate specialization. Counselors are available to assist in developing a program of studies that will meet certification requirements.

In addition to course requirements the following requirements for initial certification to teach in Florida also apply: (1) Show evidence of a score of 17 on the American College Testing Program (ACT) or a score of 835 on the Scholastic Aptitude Test (SAT); (2) Pass a written Competency Exam administered by the Florida Department of Education; and (3) Successfully complete the Florida Beginning Teacher Program.
COLLEGE GENERAL EDUCATION REQUIREMENTS

In addition to the University General Education requirements, those seeking degrees in the College of Education are required to successfully complete the following specific requirements:

A. Communication Foundations
   SPC 1014: Fundamentals of Oral Communication (3)

B. Cultural and Historical Foundations
   Students must complete two courses that fulfill Gordon Rule.

C. Mathematics Foundations
   MAC 1104: College Algebra (3)
   OR
   MGF 1202: Finite Mathematics (3)
   AND
   STA 2014: Principles of Statistics (3)

D. Social Foundations
   PSY 2013: General Psychology (3)

   Students who need to improve their writing skills are also encouraged to take LIN 1340: Grammar Review (3).

ADMISSION TO TEACHER EDUCATION

Admission to the University and/or to the College of Education as a degree seeking student does not constitute admission to the professional teacher education program. Students must meet specific requirements for admission to the particular degree program and the following general requirements:

- Present passing scores on the College Level Academic Skills Test.
- Present a score of 835 or better on the SAT or a score of 17 or better on the ACT.
- Present an overall UCF G.P.A. of 2.0 and meet general University freshman and transfer student requirements.
- Achieve a C or better grade in EDG 4321, Teaching Strategies, including successful completion of the tutorial component or equivalent.
- Completed a formal application for admission to a particular teacher education program.
- Meet minimum standards of physical and mental health.
- Must be approved by the faculty of department of the student's major.

Applicants may be interviewed at the discretion of the concerned department and/or the College Undergraduate Standards Committee. The College reserves the right to refuse student entrance or terminate a student after admission to any of its teacher education programs, if in the judgement of the College Undergraduate Standards Committee, the student demonstrates unacceptable personal fitness to work with children and/or youth.

COMMON CORE REQUIREMENTS IN CAREER TEACHING PROGRAM

The core requirements provide learning experiences to develop skills required by all teachers. These include the teaching competencies required for initial teacher certification by the Florida Department of Education.

The core requirements are as follows:

EDG 4321 Teaching Strategies 4 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 the student 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.

EDF 4285 Application of Technology in Education 3 hours
EDG 4324 Teaching in the Schools 3 hours
EDF 3603 Analysis of Education Foundations 3 hours
EDF 4214 Classroom Learning Principles 3 hours
JUNIOR STUDENT TEACHING

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 is jointly planned by public school personnel and university faculty and conducted in approved Student Teaching Centers. Experience is provided at different grade levels and in different settings. In this phase the prospective teacher participates in activities to develop and sharpen specific teaching skills and to expand teaching field knowledge. To be admitted the student must have 2.5 GPA overall academic average.

Application Deadline—An application for Junior Student Teaching must be submitted. Applications are due at least one semester (summer excluded) prior to registration.

SENIOR YEAR STUDENT TEACHING

EDE 4943 Senior Student Teaching - Elementary OR
ESE 4943 Senior Student Teaching - Secondary

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 a student must have a 2.5 GPA in the courses in the professional sequence and a 2.5 GPA in the area of specialization and satisfied Junior Student Teaching requirements; have a 2.5 GPA UCF overall academic average; be recommended by his/her department.

Application Deadline—An application for Senior Student Teaching must be submitted at least one semester (summer excluded) prior to registration. Application deadlines will be published and followed.

Courses to fulfill the Special Methods and Specialization certification requirements are offered by other departments within the college and university and listed under the appropriate departments.

CERTIFICATION AND GRADUATION REQUIREMENTS

To qualify for graduation, a student must have a 2.5 GPA in all course work and a 2.5 GPA in each area of specialization and the professional course sequence. All College of Education undergraduate curricula fulfill State of Florida academic requirements for a Bachelor's Degree Teaching Certificate. College of Education graduates who desire to teach outside Florida must meet certification requirements of the state in which they intend to seek a teaching position and should contact the appropriate Director of Teacher Education, State Department of Education for specific requirements.

All applicants for an initial teaching certificate in Florida must pass the College Level Academic Skills Test (CLAST), the professional education examination and a specialization test in their certification area.

All applicants for the Florida Regular Teaching Certificate must demonstrate satisfactory completion of the Florida Beginning Teacher Program requirements.

STUDENT INTERNSHIPS PROGRAM

Assistant Dean: Jack H. Armstrong, ED 115, Phone (407) 275-2436

The UCF Student Internship program includes early and continuous field experiences that blend knowledge with practical exercises. Through cooperative planning and articulation with local school personnel, the internship provides the student with a broad range of teaching experiences in various educational settings. The internship is an integral part of each teacher preparation program and consists of a full semester experience at both the junior and senior level. Each internship also includes one regular professional course. Internship program placements are the responsibility of the College of Education in cooperation with participating schools.

DEPARTMENT OF EDUCATIONAL FOUNDATIONS

Chair: Alexander T. Wood, ED 243, Phone (407) 275-2426
Faculty: Professors: Dziuban, Esler, Green, Kysilka, Lange, Manning
Associate Professors: Beadle, Blume, Harrow, Hiett, Hoover, McLain, Miller, Olson, Sullivan
Assistant Professors: Biramiah, Harlacher

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The Educational Foundations Department teaches the core professional courses that address the competencies and skills needed by all teachers. Foundation courses are also available for students pursuing graduate degrees in teacher education. The required undergraduate core courses include the following:

- **EDF 4321 Teaching Strategies** 4 hours
- **EDF 4285 Application of Technology in Education** 3 hours
- **EDG 4324 Teaching in the Schools** 3 hours
- **EDF 3603 Analysis of Educational Foundations** 3 hours
- **EDF 4214 Classroom Learning Principles** 3 hours

**DEPARTMENT OF EDUCATIONAL SERVICES**

Chair: David J. Mealor, ED 318, Phone (407) 275-2595

Faculty: Professors: Bozeman, Cowgill, Hernandez, Johnson, Miller, Rothberg

Associate Professors: Baumbach, Bollet, Cornell, Orwig, Shadgett, Tubbs

Assistant Professors: Balado, Crocitto, Haughee, Marowitz

The focus of the Department of Educational Services is to provide training for specialists in school and non-school environments. Certification programs and masters level (M.A., M.S., or M.Ed.) graduate programs are available in the following areas: Administration and Supervision, Educational Media and School Psychology. A doctoral program is available in the area of Administration and Supervision leading to the Specialist and/or Doctorate of Education degrees.

**DEPARTMENT OF EXCEPTIONAL AND PHYSICAL EDUCATION**

Interim Chair: Patricia E. Higginbotham

Faculty: Professors: Midgett, Rohter.

Associate Professors: Hunter, Miller, Olson, Powell.

Assistant Professors: Bell, Clark, Gergly, Martin, Platt, Renner.

Undergraduate academic major programs leading to bachelor's degrees and certification are offered in Exceptional Education and Physical Education. The Exceptional Education program includes specialities in: (a) emotionally handicapped; (b) mentally retarded and (c)
specific learning disabilities. The Physical Education program includes specialties in: (a) K-8 and (b) 6-12. In addition, minors, certification programs and masters level graduate programs are available.

**BACHELOR OF SCIENCE: EXCEPTIONAL CHILD EDUCATION**

1. Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required courses
   Specialization
   - RED 3012  Foundations of Reading  3 hours
   - RED 4519  Diag and Corrective Reading Strategies  3 hours
   - EEX 3241  Methods for Academic Skills for Exceptional Students  4 hours
   - MAE 3112  Instruction of Math in the Elementary School  4 hours
   - PET 4601  Motor Development: Habilitation & Remediation for Exceptional Students  3 hours
   - EEX 3010  Orientation to Special Education  3 hours
   - EEX 3102  Language Development and Common Disorders  3 hours
   - EEX 3221  Assessment of Exceptional Learners  3 hours
   - EEX 4601  Behavioral Management  3 hours
   - EEX 3263  Arts and Sciences for Exceptional Students  4 hours
   - EEX 4243  Techniques for the Exceptional Adolescent-Adult  3 hours
   - EED 4011  Introduction to the Emotionally Disturbed  4 hours
   - ELD 4011  Introduction to Specific Learning Disabilities  4 hours
   - EMR 4011  Introduction to the Mental Retardation  4 hours
   - EED 4212  Curriculum and Program Adaptations, E.H.  4 hours
   - ELD 4242  Program Planning for Specific Learning Disabilities  4 hours
   - ELD 4372  Curriculum Method and Materials for Retarded Persons  4 hours

4. Restricted Electives
5. Electives
   - None

   Minimum Total Semester Hours Required  120

**BACHELOR OF SCIENCE: PHYSICAL EDUCATION**

1. Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
   Specialization
   I. Elementary Physical Education (K-8)
   - PET 3012  Physical Education Professional Development  1 hour
   - PET 4640  Adapted Physical Education  3 hours
   - PET 4401  Organization & Administration of Typical/Atypical PE Programs  3 hours
   - PEO 3011  I/A Team Sports  3 hours
   - PET 4351  Physiology & Human Performance  3 hours
   - PET 4622  Human Injuries  3 hours
   - PET 4312  Biomechanics  3 hours
   - PET 4382  Fitness Assessment & Exercise Intervention  3 hours
   - PEP 3201  Gymnastics  2 hours
   - PET 4035C  Motor Development & Learning  3 hours
   - DAE 3370  Dance & Rhythms  3 hours
**Games for the Elementary School PE Program**

**Basic Foundations of Reading**

**Language Arts in the Elementary School**

**Music in the Elementary School**

**Art in the Elementary School**

**Total Hours**

**Physical Education Professional Development**

**Adapted Physical Education**

**Organization & Administration of Typical/Atypical PE Programs**

**I/A Team Sports**

**Physiology & Human Performance**

**Human Injuries**

**Biomechanics**

**Fitness Assessment & Exercise Intervention**

**Gymnastics**

**Dance Techniques**

**Coaching and Officiating**

**Advanced Sports Analysis**

**Individual Sport Activities**

**Total Hours**

**Minimum Total Semester Hours Required**

120

**DEPARTMENT OF INSTRUCTIONAL PROGRAMS**

**Chair:** R. Martin, ED 346, Phone (407) 275-2161

**Faculty:** Professors: Anderson, Brumbaugh, Clarke, Green, Hall, Hynes, McGee, Miller, Palmer, Thompson, Weidenheimer

Associate Professors: Armstrong, Bird, Gurney, Hudson, Joels, Paugh, Siebert, Sorg

Assistant Professors: Hopkins, Malone, Ratliff, Sanford, While, Williams

**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; (2) a specialized knowledge of content, techniques, and materials needed to teach different elementary school subjects such as art, language arts, reading, 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, Business, Chemistry, English, Foreign Language, Mathematics, Physics, Social Science, and Speech.

**Art/Music**

Two programs are designed to prepare specialists to teach at both the elementary and
secondary levels (K-12). A major in Art 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 the Department of 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 or 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.

**BACHELOR OF SCIENCE: ART EDUCATION**

**Degree Requirements**

1. Undergraduate Degree Requirements
2. See special college and/or department requirements
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 4143 Methodology for Teaching K-12 Art Education I 2 hours
   - ARE 4144 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 4444 Graphics Instructional Materials 3 hours
   - ART 5109C Crafts Design 3 hours

4. Restricted Electives (select one)
   - ARH 2050, 2051, or 4700. 3 hours
5. Electives
   - None

   **Minimum Total Semester Hours Required** 120

**BACHELOR OF SCIENCE: BUSINESS EDUCATION**

**Degree Requirements**

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses

   **Specialization**
   - ACG 2001 Principles of Accounting I 3 hours
   - ACG 2011 Principles of Accounting II 3 hours
   - OST 2110 Typewriting Production 3 hours
   - OST 3120 Professional Typewriting Production 3 hours
   - OST 3781 Office Technology 3 hours
   - BTE 4366 Business Correspondence 3 hours
   - BUL 3111 Legal Environment of Business 3 hours
   - CAP 3001 Computer Fund. Business 3 hours
   - ECO 2013 Principles of Economics I 3 hours
   - ECO 2023 Principles of Economics II 3 hours
   - MAR 3023 Marketing 3 hours
   - MAN 3025 Management of Organizations 3 hours
   - EVT 3062 Professional Role of the Vocational Teacher 3 hours

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4. Restricted Electives
Select two of the following (6 semester hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACG 3103</td>
<td>Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>CAP 3002</td>
<td>Business Application Programming</td>
<td>3</td>
</tr>
<tr>
<td>ECP 4403</td>
<td>Business Gov. &amp; Ind. Organizations</td>
<td>3</td>
</tr>
<tr>
<td>ECS 4003</td>
<td>Com. Economic Systems</td>
<td>3</td>
</tr>
<tr>
<td>MAN 3301</td>
<td>Personnel Management</td>
<td>3</td>
</tr>
<tr>
<td>MAN 4150</td>
<td>Human Relations Management</td>
<td>3</td>
</tr>
</tbody>
</table>

5. Electives

Minimum Total Semester Hours Required 120

*Students will not be admitted to these programs during the 1988-89 academic year. More information may be obtained from the office of the Dean of the College of Education (407) 275-2366.

BACHELOR OF SCIENCE: ELEMENTARY EDUCATION

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses

Specialization

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARE 4313</td>
<td>Art in the Elementary School</td>
<td>3</td>
</tr>
<tr>
<td>HLP 4460</td>
<td>Teaching Elementary School Health/Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>LAE 3414</td>
<td>Literature for Children</td>
<td>3</td>
</tr>
<tr>
<td>LAE 4314</td>
<td>Language Arts in the Elementary School</td>
<td>3</td>
</tr>
<tr>
<td>MAE 4326</td>
<td>How Children Learn Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>MUE 3210</td>
<td>Music in the Elementary School</td>
<td>3</td>
</tr>
<tr>
<td>SCE 3310</td>
<td>Teaching Science in the Elementary School</td>
<td>4</td>
</tr>
<tr>
<td>SSE 3312</td>
<td>Teaching Social Science in the Elementary School</td>
<td>4</td>
</tr>
</tbody>
</table>

Special Methods

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED 3012</td>
<td>Basic Foundations of Reading</td>
<td>3</td>
</tr>
<tr>
<td>RED 4519</td>
<td>Diagnostic and Corrective Reading Strategies</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Restricted Electives

Ten semester hours in science are required for majors: GEO 1200, BSC 2010C, and PHY 3014C. Twelve semester hours in mathematics are required for majors: MAE 1810 and MAE 2811 are required in addition to MAC 1104 or MGF 1202 and COC 1100 or STA 2014. The AA degree transfer student from a Florida public community college is required to select MAE 3112.

5. Electives

Minimum Total Semester Hours Required 121

BACHELOR OF SCIENCE: ENGLISH LANGUAGE ARTS EDUCATION

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses

Lower Division

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENC 1101</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>ENC 1102</td>
<td>Composition II</td>
<td>3</td>
</tr>
<tr>
<td>SPC 1014</td>
<td>Fundamentals of Oral Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

Literature

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENL 2010</td>
<td>English Literature I: Beowulf to 1660</td>
<td>3</td>
</tr>
<tr>
<td>ENL 3021</td>
<td>English Literature II: From 1660 to 1870</td>
<td>3</td>
</tr>
<tr>
<td>AML 2011</td>
<td>American Literature I</td>
<td>3</td>
</tr>
<tr>
<td>AML 3020</td>
<td>American Literature II</td>
<td>3</td>
</tr>
</tbody>
</table>
AML 4321 Modern American Literature OR 3 hours
ENL 4373 Modern British Literature 3 hours
ENL 4330 Shakespeare 3 hours
LIT 3000 Literary Analysis 3 hours
Composition
ENC 3311 Advanced Expository Writing 3 hours
Choose one:
ENC 3311, CRW 3001, CRW 3002, CRW 3310 3 hours
Language
LIN 4341 Modern English Grammar 3 hours
LAE 4342 Teaching Language and Composition 3 hours
Special Methods
LAE 3335 English Instructional Analysis 4 hours
4. Restricted Electives
Recommended: LIN 4100, LIT 3120
Approved: ENL 3273, 4101, 4311, 4341,
LIT 3313, 4312, AML 4101, LIN 3010 6 hours
5. Electives
None
Minimum Total Semester Hours Required 120

BACHELOR OF SCIENCE: SPEECH EDUCATION (7-12); ENGLISH (7-9)

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
   (See page 128)
3. Required Courses
   Lower Division
   ENC 1101 Composition I 3 hours
   ENC 1102 Composition II 3 hours
   Literature (Choose two)
   ENL 2010, 3021, AML 2011, 3020
   AML 4321 or ENL 4373, LIT 3000, LAE 5464 6 hours
   Language and Composition
   ENC 3310 Magazine Writing I 3 hours
   LIN 4341 Modern English Grammar 3 hours
   Speech (19)
   SPC 1014 Fundamentals of Oral Communication 3 hours
   LIN 3200 English Phonetics 4 hours
   ORI 3001 Interpretation I 3 hours
   SPC 3511 Argumentation and Debate 3 hours
   SPC 3425 Group Interaction and Decision Making 3 hours
4. Restricted Electives
   One upper level speech or drama course 3 hours
5. Electives
   None
Minimum Total Semester Hours Required 124

BACHELOR OF SCIENCE: FOREIGN LANGUAGE EDUCATION

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
AREAS OF SPECIALIZATION (Select one)
   French Language
   FLE 3063 Foreign Language as Human Behavior 2 hours
   FRE 1120 Elementary Language and Civilization I 4 hours
   FRE 1121 Elementary Language and Civilization II 4 hours
   FRE 2200 Intermediate Language and Civilization I 4 hours
   FRE 2201 Intermediate Language and Civilization II 4 hours
   FRE 3244 French Conversation 3 hours
   FRE 3420 French Composition 3 hours

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRW 3100</td>
<td>Survey of French Literature I</td>
<td>3</td>
</tr>
<tr>
<td>FRW 3101</td>
<td>Survey of French Literature II</td>
<td></td>
</tr>
<tr>
<td>Spanish Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLE 3063</td>
<td>Foreign Language as Human Behavior</td>
<td>2</td>
</tr>
<tr>
<td>SPN 1120</td>
<td>Elementary Language and Civilization I</td>
<td>4</td>
</tr>
<tr>
<td>SPN 1121</td>
<td>Elementary Language and Civilization II</td>
<td>4</td>
</tr>
<tr>
<td>SPN 2230</td>
<td>Intermediate Language and Civilization I</td>
<td>4</td>
</tr>
<tr>
<td>SPN 2231</td>
<td>Intermediate Language and Civilization II</td>
<td>4</td>
</tr>
<tr>
<td>SPN 3241</td>
<td>Spanish Conversation</td>
<td>3</td>
</tr>
<tr>
<td>SPN 3420</td>
<td>Spanish Composition</td>
<td>3</td>
</tr>
<tr>
<td>SPW 3100</td>
<td>Survey of Spanish Literature I</td>
<td>3</td>
</tr>
<tr>
<td>SPW 3101</td>
<td>Survey of Spanish Literature II</td>
<td>3</td>
</tr>
<tr>
<td>Special Methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLE 3333</td>
<td>Foreign Language Instructional Analysis</td>
<td>4</td>
</tr>
</tbody>
</table>

4. Restricted Electives

Select upper division courses in Area of Specialization.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIN 3010 or 4801</td>
<td>Language and Meaning</td>
<td>3</td>
</tr>
<tr>
<td>ANT 3410</td>
<td>Cultural Anthropology</td>
<td>3</td>
</tr>
</tbody>
</table>

5. Electives

See your advisor concerning courses related to "English for Speakers of other Languages" (ESOL) and Bilingual Education.

Minimum Total Semester Hours Required 123

BACHELOR OF SCIENCE: MATHEMATICS EDUCATION

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAC 1104</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MAC 1114</td>
<td>College Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>MAC 3311</td>
<td>Calculus w/Analytic Geometry I</td>
<td>4</td>
</tr>
</tbody>
</table>

137
MAC 3312  Calculus w/Analytic Geometry II  4 hours  
MGF 1202  Finite Mathematics  3 hours  
MHF 2300  Logic & Proof  3 hours  
MTG 4212  Modern Geometry  4 hours  
STA 3023  Statistical Methods I  3 hours  
COP 2510  Programming I  3 hours  
MAE 5637  Lab Program in Math  3 hours  

Special Methods
MAE 3330  Math Instructional Analysis  4 hours

4. Restricted Electives
Select two: MHF 3104, 4404, MAP 3302, MAS 3203, 3103, 3113, 4301, MAC 3313, or approved by advisor

5. Electives
Select in consultation with advisor.

Minimum Total Semester Hours Required  120

**BACHELOR OF SCIENCE: SCIENCE EDUCATION**

**Degree Requirements**
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses

**Biology Specialization**

**CORE**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 2010C</td>
<td>General Biology</td>
<td>4</td>
</tr>
<tr>
<td>CHM 1034</td>
<td>General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM 2205</td>
<td>Intro to Organic and Biochemistry</td>
<td>5</td>
</tr>
<tr>
<td>BOT 2010C</td>
<td>General Botany</td>
<td>3</td>
</tr>
<tr>
<td>BOT 4303C</td>
<td>Plant Kingdom</td>
<td>5</td>
</tr>
<tr>
<td>PCB 3043</td>
<td>Principles of Ecology</td>
<td>3</td>
</tr>
<tr>
<td>PCB 3043L</td>
<td>Principles of Ecology Lab</td>
<td>1</td>
</tr>
<tr>
<td>PCB 3063</td>
<td>Genetics</td>
<td>3</td>
</tr>
<tr>
<td>PCB 3063L</td>
<td>Genetics Lab</td>
<td>1</td>
</tr>
<tr>
<td>ZOO 2010C</td>
<td>General Zoology</td>
<td>3</td>
</tr>
<tr>
<td>ZOO 3733C</td>
<td>Human Anatomy</td>
<td>4</td>
</tr>
</tbody>
</table>

Special Methods

SCE 3330  Science Instructional Analysis  4 hours

4. Restricted Electives
Select one: BOT 3800, MCB 3013C, PCB 3703C, 4302C3-4 hours

5. Electives
Select in consultation with advisor.

Minimum Total Semester Hours Required  120

**Chemistry Specialization**

**CORE**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</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 Lab</td>
<td></td>
</tr>
<tr>
<td>CHM 3121C</td>
<td>Analytical Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>CHM 3210</td>
<td>Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHM 3211</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHM 3211L</td>
<td>Organic Lab Tech I</td>
<td>2</td>
</tr>
<tr>
<td>BCH 4053</td>
<td>Biochemistry I</td>
<td>3</td>
</tr>
</tbody>
</table>

Special Methods

SCE 3330  Science Instructional Analysis  4 hours

**Mathematics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAC 1104</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MAC 1114</td>
<td>College Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>MAC 3311</td>
<td>Calculus with Analytic Geo</td>
<td>4</td>
</tr>
</tbody>
</table>

4. Restricted Elective
Select two: BCH 4054, MCB 3013C, PCB 3063, PHY 2051C

5. Electives
Select in consultation with Advisor.

Minimum Total Semester Hours Required  120
Physics Specialization

CORE
- PHY 2053C: College Physics I (4 hours)
- PHY 2054C: College Physics II (4 hours)
- PHY 3048: Physics for Engineers & Scientists I (3 hours)
- PHY 3048L: Physics Lab for Engineers & Scientists I (1 hour)
- PHY 3101: Modern Physics (3 hours)
- PHY 3752C: Physics of Scientific Instruments (4 hours)
- PHY 4942C: Practicum in Physics (3 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 Electives
Select one: PHY 3049 and 3049L, PHY 3802L, PHS 3151, CDA 4012 (3-4 hours)

5. Electives
Select in consultation with Advisor.

BACHELOR OF SCIENCE: SOCIAL SCIENCE EDUCATION

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
   Specialization (52 hours)
   Lower Division Requirements:
   - ECO 2013: Principles of Economics I (3 hours)
   - ECO 2023: Principles of Economics II (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)
   - SYG 2000: General Sociology (3 hours)
   Upper Division Requirements:
   - CPO 3103: Comparative Politics (3 hours)
   - GEO 3370: Resources Geography (3 hours)
   - GEO 3470: World Political Geography (3 hours)
   - AMH 4231: U.S. History 1914-1945 (3 hours)
   - AMH 4270: U.S. History 1945-Present (3 hours)
   Special Methods
   - SSE 3333: Social Science Instr. Analysis (4 hours)
   4. Restricted Electives (9 hours)
   American History (select one)
   - AMH 3370: American Economic History (3 hours)
   - AMH 4130: American Revolution (3 hours)
   - AMH 4170: Civil War & Reconstruction (3 hours)
   European History (select one with approval by advisor)
   - AMH 5122: State Government & Public Policy (3 hours)
   Political Science (select one)
   - POS 3273: Voting & Elections (3 hours)
   - INR 3002: International Relations (3 hours)
5. Electives
   None

Minimum Total Semester Hours Required: 120
BACHELOR OF SCIENCE: TECHNICAL/VOCATIONAL EDUCATION

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
   This program differs from other programs in the college as noted below in #3.
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
- EDF 4285 Application of Technology in Education 3 hours
- EVT 3365 Methods of Teaching in VOED Subjects 4 hours
- EVT 3367 Evaluation of Vocational Instruction 3 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
- EVT 3062 Professional Role of the Vocational Teacher 3 hours
- EVT 4066 Principles and Practices of VOED 3 hours

Phase III Application
- EDG 4941 Directed Field Experience 12 hours

AREAS OF SPECIALIZATION

Health Occupations

Students must complete a specialization in the Health Occupations area by meeting the licensure/registration requirements for teacher certification set forth in the Florida Accreditation Code. Verification of current licensure/registration must be completed before the student is eligible for EDG 4941, Directed Field Experience.

Industrial/Technical

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
- Air Conditioning & Refrigeration
- Architectural Drafting
- Audio-Visual Communication
- Automotive Body & Fender
- Brick Masonry
- Cabinet Making & Millwork
- Carpenter
- Cosmetology
- Commercial Art
- Diesel Engine
- Electrical Installation
- Electronics Communication

(For further information about NOCTI, or about other available tests, consult Dr. Robert Paugh, Regional Director, NOCTI (305-275-2939)

4. Restricted Electives (none)
5. Electives (must be upper-division level) (EVT 4368 recommended) 9 hours

Minimum Total Semester Hours Required 123
COLLEGE OF ENGINEERING

UNDERGRADUATE PROGRAMS

ENGINEERING
- Aerospace Engineering (BSE)
- Civil Engineering (BSE)
- Computer Engineering (BSE)
- Electrical Engineering (BSE)
- Environmental Engineering (BSE)
- Industrial Engineering (BSE)
- Mechanical Engineering (BSE)

ENGINEERING TECHNOLOGY
- Computer Technology (BSET)
- Design Technology (BSET)
- Electronics Technology (BSET)
- Information Systems Technology (BSET)
- Operations Technology (BSET)

GRADUATE PROGRAMS*

ENGINEERING
- Civil Engineering (MSE, MCE, Ph.D.)
- Computer Engineering (MSE, Ph.D.)
- Electrical Engineering (MSE, Ph.D.)
- Engineering (MS)
- Environmental Engineering (MSE, Ph.D.)
- Industrial Engineering (MSE, Ph.D.)
- Industrial Engineering/Manufacturing Engineering (MSE)
- Mechanical Engineering (MSE, Ph.D.)

ENVIRONMENTAL SYSTEMS MANAGEMENT
- Environmental Systems Management (MSES)

*See the Graduate Studies Catalog for information
COLLEGE OF ENGINEERING

Dean: G. Whitehouse, CB 107, Phone (407) 275-2156
Acting Associate Dean: R.N. Miller, CB 107, Phone (407) 275-2156
Assistant Dean: J.P. Hartman, CB 281, Phone (407) 275-2455
Assistant Dean: B. Mathews, CB 281, Phone (407) 275-2455

PROFESSIONAL COLLEGE OF ENGINEERING

The College of Engineering at the University of Central Florida was formally organized by the Engineering faculty in the Fall of 1968. The objective of the College of Engineering is 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 State of Florida and national needs. To achieve high professional status, the 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 based on a broad unified core program.

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 132 semester hours, including general education 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. It is the policy of the 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 of the Florida State Board of Professional Engineers as a graduation requirement.

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 Universi-
ty 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.

Students who have omissions or deficiencies in subject matter preparation may be required to complete additional university credit course work which may not be applied toward an engineering degree. The most common deficiencies that must be removed before beginning regular engineering course work are algebra, trigonometry, general physics, English and general chemistry.

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 the 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 the degree will be determined by the Dean of the College.

The College of Engineering offers a special Five-Year Program to those students also enrolled in Air Force ROTC. This plan allows those students to spread their academic load over a five-year period to accommodate certain AFROTC courses which are not creditable to the engineering degree.

ENGINEERING TECHNOLOGY CURRICULUM

Satisfactory completion of an engineering technology curriculum of 128 semester hours, including general education courses, an engineering technology core curriculum, and required and elective courses in a selected technology option of the student's choice, leads to the degree of Bachelor of Science in Engineering Technology. Engineering 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 the attainment of his or her career objectives.

Students who wish to be admitted to the engineering technology program should possess an Associate in Science (or equivalent education) degree from a Florida community college or approved out-of-state institution 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. The status of a student and the specific credits acceptable toward the 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 the ability to do satisfactory work at the University.

MINOR: TECHNOLOGY AND SOCIETY

Contact Person: J. Paul Hartman, CB 281, Phone (407) 275-2455

The College of Engineering offers a minor in Technology and Society to interested students within the University of Central Florida. The program is intended for students not enrolled in the College of Engineering, although students in the College taking these additional 18 hours may also be awarded the minor. To meet the requirements, the student must complete a minimum of 18 hours taken from the courses listed. It is preferred that students complete the following GEP coursework prior to the taking of this minor: ECO 2013, MAC 1104, PHY 2050C, and the History or Humanities sequence. The 18 hours are to be selected from:

- EGN 4033: Technology and Social Change
- EGN 4811: Engineering and Technology in Canada
- EGN 4813: Science in History
- EGN 4814: Engineering and Technology in History
- EGN 4815: Historical Architecture
- EGN 4818: Engineering and Technology in America
- EGN 4823: Topics in Urban Development
- EGN 4824: Energy and Society
- EGN 4825: Environment and Society

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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 or her advisor an approved course of study for his remaining work. Generally, students with a 2.250 grade point average or higher in the basic phase will receive approval.

Counseling is provided so that the student may be aided in making a 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 in either engineering or engineering technology. To be certified for graduation, a student must achieve a minimum grade point average of: (1) 2.250 in the Basic Phase of the engineering core; (2) 2.250 in the Professional Phase of the engineering core; (3) 2.250 in all courses in the major (option) and (4) 2.000 in remaining course work presented for the degree.

BACHELOR OF SCIENCE IN ENGINEERING DEGREE PROGRAM

Program Coordinator: J. Paul Hartman, CB 281, Phone (407) 275-2455.

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, the fundamentals of engineering problem solving, and specialization in an option. 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, industrial employment 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 or her chosen area of specialization.

ENGINEERING CORE REQUIREMENTS¹

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 or she is best suited.
BASIC PHASE
ECO 2013 Principles of Economics I 3 hours
CGS 3422 Programming and Numerical Methods\(^2\) 3 hours
or
EGN 3210 Engineering Analysis and Computation\(^2\) 3 hours
EGN 1111C Engineering Graphics 2 hours
CHS 1440 Fundamentals of Chemistry For Engineers\(^3\) 4 hours
PHY 3048 Physics For Engineers and Scientists I\(^4\) 3 hours
PHY 3049 Physics For Engineers and Scientists II 3 hours
PHY 3048L or PHY 3049L Laboratory Elective\(^2\) 1 hour
or CHM 2046L
EGN 3311 Engineering Analysis-Statics 3 hours
EGN 3363C Structure and Properties of Materials 3 hours
EGN 3613 Engineering Economic Analysis 2 hours
EGN 3704 Engineering and the Environment 2 hours
MAC 3311,3312,3313 Calculus and Analytic Geometry 12 hours
Biological or Earth Science Electives\(^2\) 3 hours

\(^1\)Includes portions of the General Education Program.
\(^2\)Consult Department Chair for specific course required in option.
\(^3\)Students without one secondary school unit of Chemistry should enroll in CHM 1034 and
CHM 2046L prior to taking CHS 1440.
\(^4\)Students without one secondary school unit of Physics should enroll in PHY 2050C prior
to taking PHY 3048.

PROFESSIONAL PHASE
EGN 3321 Engineering Analysis-Dynamics 3 hours
EGN 3343 Thermodynamics 3 hours
EGN 3373 Principles of Electrical Engineering 3 hours
EGN 3375C Electrical Devices and Systems 3 hours
EGN 4703 Systems Analysis and Control\(^5\) 3 hours
or
EGN 4714 Linear Control Systems\(^6\) 3 hours
EGN 4624 Engineering Administration 3 hours
MAP 3302 Differential Equations 3 hours
PHY 3101 Modern Physics\(^6\) 3 hours
STA 3032 Probability and Statistics for Engineers 3 hours

\(^5\)Consult Department Chair for specific course required in option.
\(^6\)Or approved science course - see option

DEPARTMENT OF CIVIL ENGINEERING AND
ENVIRONMENTAL SCIENCES

Chair: D. Jenkins, CB 381, Phone (407) 275-2841
Faculty: Block, W.E. Carroll, W. F. Carroll, Cooper, Dietz, Harper, Hartman, Head, Jackson,
Kersten, Kuo, Leftwich, J. Taylor, Wanielista, Yousef

The Department of Civil Engineering and Environmental Sciences offers an option in
Environmental Engineering and an option in Civil Engineering. The Environmental Engi-
nneering 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 in such areas as structures, soil
mechanics, sanitary engineering, water resources, and transportation. Environmental and
civil engineers are responsible for research, development, planning, design, and construc-
tion 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. These include not only basic and fundamental civil and
environmental engineering disciplines, but also specialized support courses. These courses
reflect contemporary developments and trends in these engineering disciplines. The
undergraduate degree programs in Civil Engineering and Environmental Engineering
(leading to the B.S.E. degree) are accredited by the Engineering Accreditation Commission
(EAC) of the Accreditation Board for Engineering and Technology (ABET).
BACHELOR OF SCIENCE IN ENGINEERING:
CIVIL ENGINEERING

Degree Requirements
1. See Undergraduate Degree Requirements
2. Special college and/or department requirements—See Engineering Core
3. Required Courses
   - EGN 3331 Mechanics of Materials 3 hours
   - EGN 3353C Fluid Mechanics 3 hours
   - CES 4124 Structural Engineering Analysis 3 hours
   - CES 4605 Structural Steel Design 3 hours
   or
   - CES 4704 Structural Concrete Design 3 hours
   - ECI 4305C Geotechnical Engineering I 3 hours
   - Civil Engineering Design Courses (2 hr. each) 4 hours
   - ENV 4403C Hydrology 3 hours
   - ENV 4404C Hydraulics 3 hours
   - ENV 4504 Environmental Engineering Process Design 4 hours
   - TTE 4004 Transportation Engineering 3 hours

4. 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 chair. 5 hours

5. Electives
   None

Total Semester Hours Required 132

BACHELOR OF SCIENCE IN ENGINEERING:
ENVIRONMENTAL ENGINEERING

Degree Requirements
1. See Undergraduate Degree Requirements
2. Special college and/or department requirements—See Engineering Core
3. Required Courses
   - EGN 3331 Mechanics of Materials 3 hours
   - EGN 3353C Fluid Mechanics 3 hours
   - EES 4202C Chemical Process Control 3 hours
   - EES 4204C Biological Process Control 3 hours
   - ENV 4119 Air Pollution 3 hours
   - ENV 4355 Solid and Hazardous Wastes 3 hours
   - ENV 4403C Hydrology 3 hours
   - ENV 4404C Hydraulics 3 hours
   - ENV 4433 Water Resources Design 2 hours
   - ENV 4434 Environmental Engineering Systems Design 2 hours
   - ENV 4504 Environmental Engineering Process Design 4 hours

4. 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 chair. 5 hours

5. Electives
   None

Total Semester Hours Required 132

DEPARTMENT OF COMPUTER ENGINEERING
Chair: C. Bauer, CB 207, Phone 275-2236
Faculty: Gonzalez, Klee, Linton, Myler, Papadourakis, Patz

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
management of complex technical problems. Many modern industries and government
organizations are involved in the design and analysis of highly complex equipment and
systems often requiring rigorous mathematical treatment which can be carried out effectively

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only through the use of modern, high speed 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 Computer Engineer-
ing will enjoy a broad spectrum of challenging opportunities.

The undergraduate degree program in Computer Engineering is accredited by the
Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering
and Technology (ABET).

BACHELOR OF SCIENCE IN ENGINEERING:
COMPUTER ENGINEERING

Degree Requirements
1. See Undergraduate Degree Requirements
2. Special college and/or department requirements—See Engineering Core
3. Required Courses
   ECM 4230 Engineering Data Structures 2 hours
   ECM 4301 Engineering Applications of Computer Methods 3 hours
   ECM 4504C Embedded Computer Systems 3 hours
   ECM 4708 Modelling & Design of Engineering Systems 3 hours
   ECM 4804 Engineering Software Design 3 hours
   EEL 3342C Introduction to Digital Circuits and Systems 4 hours
   EEL 4701C Digital Systems Organization 4 hours
   EEL 4702C Digital Systems Design 4 hours
   COT 3100 Introduction to Discrete Structures 3 hours
   EGN 4634 Operations Research 2 hours
4. 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 chair. One of the
   student's technical electives must be in the Engineering Sciences area. 6 hours
   Total Semester Hours Required 132
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 digital systems, electrical networks, electronics, electromagnetic fields and microwaves, electromechanics and control, 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 electrical engineering enters into much of industry and service where information is processed and transmitted, control exercised over physical, chemical, or mechanical operations, and power utilized. The undergraduate degree program in Electrical Engineering (leading to the B.S.E. degree) is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

**BACHELOR OF SCIENCE IN ENGINEERING: ELECTRICAL ENGINEERING**

**Degree Requirements**

1. See Undergraduate Degree Requirements
2. Special college and/or department requirements—See Engineering Core
3. Required Courses
   - EEL 3122 Electrical Networks 3 hours
   - EEL 3306 Semiconductor Devices 3 hours
   - EEL 3307C Electronic Engineering 4 hours
   - EEL 3470 Electromagnetic Fields 3 hours
   - EEL 3342C Logical Component Design 4 hours
   - EEL 3552C Signal Analysis and Communications 4 hours
   - EEL 4309C Active Circuits 4 hours
   - or EEL 4701C Digital Systems Organization 4 hours
4. 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 chair, and must include additional design courses. 12 hours
5. Electives
   None

**Total Semester Hours Required** 132

**DEPARTMENT OF INDUSTRIAL ENGINEERING & MANAGEMENT SYSTEMS**

**Chair:** W. Swart, CB 381, Phone (407) 275-2204
**Faculty:** Biegel, Brooks, Elshennawy, Hosni, Lee, Morse, Schrader, Sepulveda, Wasserman, Whitehouse

Industrial Engineers design systems which translate a specific product design into a physical reality in the most productive manner and with highest quality possible. In doing so, the Industrial Engineer deals with decisions regarding the right mix and type of people, materials, machines, and automation (including robotics). Industrial Engineers are also skilled in Engineering Economic Analysis and Information Management since they
are generally considered to be the natural interface between the technical specialist and management.

Industrial Engineers are sought in industrial, service, and government organizations. In the Industrial Sector, the Industrial Engineer is concerned with improving productivity and quality of the manufacturing, distribution and management system of organizations. In the service sector, the Industrial Engineer is concerned with determining the most productive manner in which to deliver high quality service to the customer. In government organizations the Industrial Engineer is active in assuring that the tax payer receives maximum service for their tax dollars.

The Industrial Engineering approach is characterized by a systematic evaluation of alternatives using quantitative analysis and computer simulations. As such, quantification and measurement play a key role in the day to day activities of the Industrial Engineer.

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, manufacturing, 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 computers and micro-processors 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 Industrial Engineering graduate to accept and succeed in these opportunities. The undergraduate degree program in Industrial Engineering (leading to the B.S.E. degree) is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

**BACHELOR OF SCIENCE IN ENGINEERING: INDUSTRIAL ENGINEERING**

**Degree Requirements**

1. See Undergraduate Degree Requirements
2. Special college and/or department requirements—See Engineering Core
3. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>APA 3471</td>
<td>Accounting for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>EGN 4634</td>
<td>Operations Research</td>
<td>2</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 4364C</td>
<td>Industrial Facilities Planning and Design</td>
<td>3</td>
</tr>
<tr>
<td>EIN 4391C</td>
<td>Manufacturing Engineering</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>
<tr>
<td>EIN 4142C</td>
<td>Industrial Engineering Senior Design Project</td>
<td>3</td>
</tr>
</tbody>
</table>

4. 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 chair, and must include at least 4 credit hours of Engineering Science.

5. Electives

None

Total Semester Hours Required: 132
DEPARTMENT OF MECHANICAL ENGINEERING
AND AEROSPACE SCIENCES

Chair: S. Rice, CB 307, Phone (407) 275-2416
Faculty: Anderson, J. Beck, Bishop, Desai, Eno, Grogan, Gunnerson, Hagedoorn, Henry, Hosler, Kitis, Minardi, Moslehy, Nuckolls, W. Smith, Ventre

The Department of Mechanical Engineering and Aerospace Sciences offers an option in Aerospace Engineering and an option in Mechanical Engineering and is primarily concerned with dynamic physical systems involving transportation, production and energy conversion. Because such systems require 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 this energy. When dealing with problems of this nature, the engineer must consider the economic constraints and the social implications of proposed solutions.

The Aerospace Engineering option prepares the student for a wide range of entry positions in the aeronautical and space-related industries. Emphasis is placed upon the subdisciplines of aerodynamics, stability and control, propulsion, flight structures, and flight vehicle design.

The Mechanical Engineering option provides the student with the opportunity to pursue educational objectives within the framework of several broad themes. Primary emphasis is given to the departmental subdisciplines of measurement systems, mechanical systems design and control, energy conversion and power systems, thermal sciences, materials science, computer aided design, bioengineering, tribology, and experimental mechanics.

Both programs are specifically designed to give the student a broad-based undergraduate program which provides sufficient knowledge to allow him/her to converse with specialists in other fields of engineering and to analyze the basic problems in these fields. By judiciously selecting courses from departmental sub-disciplines, a firm foundation is laid so that the student will obtain the theoretical tools and the design methodology necessary to pursue successfully a career in the mechanical or aerospace engineering professions. The undergraduate degree program in Mechanical Engineering (leading to the B.S.E. degree) is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

BACHELOR OF SCIENCE IN ENGINEERING:
AEROSPACE ENGINEERING

Degree Requirements
1. See Undergraduate Degree Requirements
2. Special college and/or department requirements—See Engineering Core
3. Required Courses
   - EAS 4101 Aerodynamics I 3 hours
   - EAS 4105 Aerodynamics II 3 hours
   - EAS 4200 Flight Structures 3 hours
   - EAS 4300 Propulsion Systems 3 hours
   - EGN 3331 Mechanics of Materials 3 hours
   - EGN 3353C Fluid Mechanics 3 hours
   - EML 4142 Heat Transfer 3 hours
   - EML 4222 Vibration Analysis 3 hours
   - EML 4505 Engineering Design 3 hours
   - EML 4709 Fluid Mechanics II 3 hours
4. Restricted Electives
   Technical electives are to be courses consistent with department objectives and chosen with approval of the student's faculty advisor and department chair and must include additional design content. 7 hours
5. Electives
None
Total Semester Hours Required 132

BACHELOR OF SCIENCE IN ENGINEERING:
MECHANICAL ENGINEERING

Degree Requirements
1. See Undergraduate Degree Requirements
2. Special college and/or department requirements—See Engineering Core

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3. Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>EGN 3331</td>
<td>Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>EGN 3353C</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>EML 3106</td>
<td>Thermodynamics of Mechanical Systems</td>
<td>3</td>
</tr>
<tr>
<td>EML 3262</td>
<td>Kinematics of Mechanisms</td>
<td>3</td>
</tr>
<tr>
<td>EML 3502</td>
<td>Machine Design and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EML 4142</td>
<td>Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>EML 4222</td>
<td>Vibration Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EML 4412C</td>
<td>Experimental Design</td>
<td>3</td>
</tr>
<tr>
<td>EML 4505</td>
<td>Engineering Design</td>
<td>3</td>
</tr>
<tr>
<td>EML 4709</td>
<td>Fluid Mechanics II</td>
<td>3</td>
</tr>
</tbody>
</table>

4. 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 chair and must include additional design content. 8 hours

5. Electives

None

Total Semester Hours Required 132

DEPARTMENT OF ENGINEERING TECHNOLOGY
Chair: R. Denning, CB 207, Phone (407) 275-2268
Faculty: Byers, Debo, Dixon, Gregg, Griffith, Osborne, Shaykhian, Strange, Uspenski, Worbs

The Bachelor of Science in Engineering Technology (B.S.E.T.) program is designed for students who have completed an Associate of Science (A.S.) degree in an appropriate area of technology or who have completed an Associate of Arts (A.A.) degree with approximately 25 semester hours in an appropriate area of technology. The A.S. degree granted is a career program designed to prepare graduates to enter the work force as Engineering Technicians. As such, the A.S. program does not require completion of the General Education program that is required by A.A. degree programs. While the A.S. graduate is granted admission into UCF's BSET program, completion of UCF's General Education is required before the BSET degree is granted. It is strongly recommended that A.S. graduates planning to transfer to UCF, complete as many as possible of the General Education courses, which will apply at UCF (as part of their A.S. program). It is not recommended that both the A.S. and A.A. requirements be completed prior to transfer to UCF as the maximum number of 2-year credits which can be effectively used in the BSET program is 64 semester hours. If a student completes the General Education Program of a Florida public community college, it will substitute for UCF's Lower Division General Education Program without a course-by-course match.

The upper division Bachelor of Science in Engineering Technology (BSET) program at the University of Central Florida is designed to advance the engineering technician to the engineering technologist level. Graduates of baccalaureate programs are termed Engineering Technologists and graduates of two year programs are termed Engineering Technicians. The Engineering Technologist works with both the scientist and the engineer, helping them convert ideas into accomplishments. The engineering technologist is primarily involved in application of existing technologies and devices to the solution of routine engineering problems.

Principal areas of study in the junior and senior years of the engineering technology curriculum will include mathematics, communications, and substantial additional work in the technical sciences and technical specialty. The courses will include theory and practical laboratory experience.

The five Technology options (majors) offered in the Engineering Technology degree program are:

- Computer Technology
- Design Technology
- Electronics Technology
- Information Systems Technology
- Operations Technology

The Design, Electronics, and Operations options are accredited by Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology (ABET).
The Computer Technology and Information Systems options are recently implemented programs.

**BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY**

**Degree Requirements**

1. See Undergraduate Degree Requirements
2. Special college and/or department requirements—See Engineering Technology Core below
3. Required Courses
   A. General Education (Not including Math, Science and Computer Programming)  
   B. Lower Division Technology Courses or Equivalent  
   C. Engineering Technology Core  
      *MAC 1104 College Algebra  
      *MAC 1114 College Trigonometry  
      MAC 3253 or MAC 3311 Calculus I  
      MAC 3254 or MAC 3312 Calculus II  
      MAP 3401 Problem Analysis  
      *PHY 2053C College Physics I  
      *CHM 1032 General Chemistry  
      *Biology, Geology, Physical Geography  
      *COP 1200, COP 2000, CGS 3422  
      ETG 3510 Applied Mechanics  
      ETI 3651 Computer Applications  
      ETI 3671 Technical Economic Analysis  
      ETI 4110 Industrial Quality Control  
      ETM 4310 Applied Thermodynamics and Fluid Mechanics
   *Typically taken at community college  
   SUBTOTAL 45-47 hours

D. Technical Specialty (Upper Division Major Courses)  
   See areas of specialization below.

E. Approved Electives hrs.  
   (64 semester hours minimum senior institution credits-
   12 of which may be waived for students enrolled at area campuses.)
   TOTAL SEMESTER HOURS 128 hrs.

**AREAS OF SPECIALIZATION**

1. **Computer Technology**
   The Computer Technology specialty includes both hardware and software. Typical functions eventually performed by graduates include PC coordinator, computer applications coordinator, system integrator, system troubleshooter, system analyst, and hardware and software designer. Graduates may work in manufacturing, test, design, product improvement, system operations and maintenance, automated processing, robotics, and marketing. Graduates may evaluate new hardware and software and assist their companies to increase productivity by raising computer literacy and adopting new computer technology to old processes. Typical community college programs for entrance include Computer Technology, Computer Science, Computer Programming, and Electronics. The lower level requirements (15 hours) that are typically taken at a community college are DC and AC Circuits, Digital Circuits, Microprocessors I, and Programming (Fortran or Pascal). The upper level requirements are the Engineering Technology Core, which includes a CAD course, and the following selection of courses.

   **Upper Level Required Courses (15 hours)**
   - CET 3144C  
     Applied Microprocessor Technology  
     4 hours
   - CET 3303  
     Microcomputer Technology  
     3 hours
   - CET 4188  
     Microcomputer Technology II  
     4 hours
   - CET 4333C  
     Applied Computer Systems I  
     4 hours

   **Upper Level Technical Electives.** Courses must be selected so that the combination of lower and upper level courses provide a balance of hardware and software. (11-12 hrs.)
   - CET 4131C  
     Microprocessor Electronics II  
     4 hours
   - EET 3716  
     Electrical Network Analysis  
     3 hours
   - EET 4158C  
     Linear Integrated Circuits  
     3 hours
   - CET 4334C  
     Applied Computer Systems II  
     4 hours
   - CET 4198C  
     Digital Systems  
     4 hours
2. Design Technology
The specialization in Design Technology provides advanced level coursework in preparation of employment at the Baccalaureate level in the fields of manufacturing, testing, and fabrication of mechanical parts, mechanical drafting, and building construction. Typical community college programs for entrance include those in Drafting and Design, Mechanical, Civil, and Building Construction Technologies. A minimum of five semester hours of engineering drawing or drafting must be included in the community college program.

Upper Level Required Courses (22 hours)
- CET 3123C Microprocessor Electronics 3 hours
- EET 3035C Electricity and Electronics 4 hours
- EST 4535C Electro-Mechanical Design 3 hours
- ETI 3421 Materials and Processes 3 hours
- ETG 4530 Strength of Materials 3 hours
- ETM 4403C Applied Kinematics 3 hours
- ETM 4512 Applied Design of Machine Elements 3 hours

Upper Level Technical Electives, (10 hours)
- BCN 4230 Construction Methods, Contracts & Specs. 4 hours
- ETC 4410C Applied Structural Design I 3 hours
- ETC 4415C Applied Structural Design II 3 hours
- CET 4131C Microprocessor Electronics II 4 hours
- ETI 4522C Applied Robotics 3 hours
- ETM 4750 Applied Air Conditioning 3 hours
- ETM 4220 Applied Energy Systems 2 hours
- ETM 4590C Design Integration 2 hours

(Other technical elective courses may be selected with approval of curriculum coordinator and Department Chair)

Approved electives to bring total to 128 semester hours (17-19 hrs.)

3. Electronics Technology
The specialization in Electronics Technology provides advanced level courses in preparation for employment opportunities in electronics at the Baccalaureate level. Typical community college associate degree programs for entrance include those in Electrical, Electronics, Electro-mechanical and Computer Technology. The technology courses presented for transfer must total at least 24 semester hours and must include courses in DC and AC Circuits, Electronic Devices/Circuits, Digital Fundamentals/Circuits, Microprocessors, and Technical Report Writing. A minimum of 8 courses (upper and lower level) which include laboratory are required for award of the BSET in Electronics.

Upper Level Required Courses (16 hours)
- EET 3716 Electrical Network Analysis 3 hours
- CET 3303 Microcomputer Technology 3 hours
- EET 4329C Electronic Communications 4 hours
- EET 4158C Linear Integrated Circuits 3 hours
- EET 4732 Feedback Control 3 hours

Upper Level Technical Electives (8-11 hours)
(Select 3 courses from the following)
- EET 4339C Antennas & Propagation 3 hours
- EET 4389C Satellite Communication Systems 3 hours
- EET 4508 Power Utilization 3 hours
- EET 4548 Power Transmission 3 hours
- CET 4131C Microprocessor Electronics II 4 hours
- CET 4198C Digital Systems 4 hours
- CET 4381 Digital Signal Processing 3 hours
- CET 4915 Senior Computer Systems Laboratory 2 hours
- ETG 4931 Current Topics in Technology 3 hours

(Other technical elective courses may be selected with approval of curriculum coordinator and Department Chair)

Approved electives to bring total to 128 semester hours (3-8 hrs.)
4. Information Systems Technology

The specialization in Information Systems Technology provides advanced level courses in preparation for employment in computer systems programming and technical systems analysis. Typical community college associate degree programs for entrance include those in Computer Information Systems and Computer Programming. A minimum of 21 semester hours including Pascal I, Pascal II, Cobol, Assembler, Computer Programming, Statistics, and Technical Report Writing must be included in the community college degree program.

**Upper Level Required Courses (22 hours)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EET 3035C</td>
<td>Electricity and Electronics</td>
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<tr>
<td>CET 3383</td>
<td>Applied Systems Analysis and Design</td>
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<tr>
<td>CET 3123C</td>
<td>Microprocessor Electronics</td>
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<tr>
<td>CET 3323C</td>
<td>Computer Organization Technology</td>
<td>3</td>
</tr>
<tr>
<td>CET 4427</td>
<td>Applied Data Base Systems</td>
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</tr>
<tr>
<td>CET 4505</td>
<td>Applied Computer Operating Systems</td>
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</tr>
<tr>
<td>CET 4523</td>
<td>Applied Systems Analysis II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Upper Level Technical Electives (Select two courses)**

- CET 3303: Microcomputer Technology I
- CET 4527: Applied Operating Systems II
- CET 4627: Applied Database Systems II
- CET 4915: Senior Computer Systems Laboratory

(Other technical elective courses may be selected with approval of curriculum coordinator and Department chair)

Approved electives to bring total to 128 semester hours: 8-11 hrs.

5. Operations Technology

The specialization 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 Associate Degree backgrounds and develop the management and supervisory skills necessary to produce a marketable graduate. 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. *Engineering drawing must be included in the Community College program.*

**Required Courses (24 hours)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CET 3123C</td>
<td>Microprocessor Electronics</td>
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</tr>
<tr>
<td>CET 4131C</td>
<td>Microprocessor Electronics II</td>
<td>4</td>
</tr>
<tr>
<td>EET 3035C</td>
<td>Electricity and Electronics</td>
<td>4</td>
</tr>
<tr>
<td>ETL 3421</td>
<td>Materials and Processes</td>
<td>3</td>
</tr>
<tr>
<td>ETL 4611</td>
<td>Plant Layout, Matl. Handling and Work Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ETL 4650</td>
<td>Process Planning and Estimating</td>
<td>4</td>
</tr>
<tr>
<td>ETL 4522</td>
<td>Applied Robotics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Upper Level Technical Electives (8 hours)**

- EST 4530: Electro-Mechanical Design
- ETL 3690: Technical Sales
- ETL 4700: Occupational Safety
- BCN 4230: Construction Methods, Contracts & Specs.
- ETL 4220: Applied Energy Systems
- ETL 4750: Applied Air Conditioning

(Other technical electives may be selected with approval of the curriculum coordinator and Department Chair)

Approved electives to bring total to 128 semester hours: 20-22 hrs.
COLLEGE OF HEALTH

UNDERGRADUATE PROGRAMS
Cardiopulmonary Sciences (BS)
Communicative Disorders (BA)
Medical Record Administration (BS)
Medical Technology (BS)
Nursing (BSN)
Radiologic Sciences (BS)

GRADUATE PROGRAM*
Communicative Disorders (MA)
Health Sciences (MS)

OTHER PROGRAMS
Pre-Occupational Therapy
Pre-Physical Therapy

*See the Graduate Studies catalog for information.
COLLEGE OF HEALTH

Interim Dean: L. Ellis, HP 207, Phone (407) 275-2352
Associate Dean: TBA, HP 207

The mission of the College of Health is to provide quality undergraduate and graduate academic and clinical instruction. The College seeks to identify and develop new programs which fulfill documented need for humanistic health care resources and health care technology within the central Florida community. An intertwined mission to professional education within the College is to foster the development and transmission of knowledge and the generation and transmission of research findings via grantsmanship, publication, and presentation at scientific conferences. In addition, the College supports development of continuing education programs for community professionals and innovative health care services within its academic units.

The college believes that through a liberal arts education, intensive study in a specific health related discipline, and appreciation of scientific method the graduate will be a valuable asset to health care in Florida as well as the nation.

General Requirements for the Bachelors Degree (excluding Communicative Disorders)

Degree programs in the College of Health are upper-division, limited access programs. Acceptance by or registration at the University does not constitute admission to a College of Health program. Separate application must be made to the director/chair of the program/department prior to February 1st preceding the semester in which the student desires to begin the program. Before acceptance to the program, a minimum overall grade point average of 2.5 and a minimum grade of C in the major and in prerequisite courses are required for admission to, continuation in, and graduation from a College of Health program.

In addition to University and program requirements, each student is required to complete 6 hours of College of Health courses outside of the major.

DEPARTMENT OF COMMUNICATIVE DISORDERS

Chair: D. Ratusnik, HP 113, Phone (407) 275-2121
Faculty: Hedrick, Ingram, Mullin, Utt

The primary goal of the Department of Communicative Disorders is the preparation of clinical specialists in Speech-Language Pathology and Audiology. Undergraduate offerings are consistent with philosophies of the American Speech-Language-Hearing Association in that most coursework is designed to provide the student 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 and industrial settings are available for the development of various clinical competencies. Faculty are engaged in generation and transmission of knowledge concerning speech-language-hearing processes and impairments via ongoing research projects. The professional phase of the program in speech/language pathology and audiology is accredited by the Educational Standards Board of the American Speech-Language Hearing Association.

MINOR

The Department of Communicative Disorders offers a minor consisting of a minimum of 22 semester hours.

Required courses: LIN 3710, 3710L and SPA 3001, 3101, 3112, 3112L, 4030, 4222, 4222L, and 4402, 4402L.

BACHELOR OF ARTS: COMMUNICATIVE DISORDERS

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
   LIN 3710. Foundations of Language 3 hours
   LIN 3710L. Foundations of Language Lab 1 hour
   SPA 3001. Introduction to Communicative Disorders 3 hours
   SPA 3052. Clinical Observation & Practice 3 hours
   (Taken in Fall & Spring of Senior year)
4. Restricted Electives

To be selected from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEP 3212</td>
<td>Psychological Approaches to Mental</td>
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</tr>
<tr>
<td></td>
<td>Retardation</td>
<td></td>
</tr>
<tr>
<td>DEP 3202</td>
<td>Psychology of Exceptional Children</td>
<td>3</td>
</tr>
<tr>
<td>EAB 3703</td>
<td>Principles of Behavior Modification</td>
<td>4</td>
</tr>
<tr>
<td>STA 3023</td>
<td>Statistical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>STA 4163</td>
<td>Statistical Methods II</td>
<td>3</td>
</tr>
</tbody>
</table>

The two statistics courses are required for graduation.

5. Electives

Students who wish to obtain a Teachers Certificate for the State of Florida must include necessary coursework as electives.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEP 3212</td>
<td>Psychological Approaches to Mental</td>
<td>3</td>
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<tr>
<td></td>
<td>Retardation</td>
<td></td>
</tr>
<tr>
<td>DEP 3202</td>
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<td>3</td>
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<tr>
<td>EAB 3703</td>
<td>Principles of Behavior Modification</td>
<td>4</td>
</tr>
<tr>
<td>STA 3023</td>
<td>Statistical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>STA 4163</td>
<td>Statistical Methods II</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Semester Hours Required: 130
PROGRAM IN HEALTH SCIENCES

Director: T. Mendenhall, HP 123, Phone (407) 275-2972
Faculty: Bergner, Edwards, Gerughty

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. In order to be awarded a minor in Health Sciences, a student must complete the required course work and maintain at least a 2.5 GPA and a minimum of C on all College of Health course work.

Required Courses: HSA 4121, HSA 4180, or HUN 3011, HSC 3110 and 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. Kuyper, HP 216, Phone (407) 275-2359
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) the 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 acceptance to the professional phase of the program, students are required to complete the following prerequisite courses: biology with lab, anatomy with lab, physiology with lab, statistics, an introduction to data processing or computer science, and an introduction to accounting or finance.

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 upper-division, limited access MRA program prior to February 1 of the year in which prerequisites will have been met to be considered an applicant. A personal interview is also a requirement.

Upon completion of the approved program, the student is eligible to apply to write the national registration examination administered by the American Medical Record Association to qualify as a Registered Record Administrator.

BACHELOR OF SCIENCE: MEDICAL RECORD ADMINISTRATION

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>APB 3600</td>
<td>Introduction to Pharmacology</td>
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</tr>
<tr>
<td>COM 3110</td>
<td>Business and Professional Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENC 3210</td>
<td>Business Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>HSC 3170</td>
<td>Health Care Finance</td>
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<tr>
<td>HSC 3640</td>
<td>Health Law</td>
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<tr>
<td>HSC 3531</td>
<td>Medical Terminology</td>
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<td>Pathophysiologic Mechanisms</td>
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<td>MAN 3025</td>
<td>Management of Organizations</td>
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<tr>
<td>MAN 3301</td>
<td>Personnel Management</td>
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<tr>
<td>MRE 3000</td>
<td>Introduction to Medical Records</td>
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<tr>
<td>MRE 3110</td>
<td>Medical Record Organization &amp; Management</td>
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<tr>
<td>MRE 3432</td>
<td>Fundamentals of Medicine</td>
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<tr>
<td>MRE 3800</td>
<td>Directed Practice I</td>
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<tr>
<td>MRE 3810</td>
<td>Directed Practice II</td>
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<tr>
<td>MRE 4202</td>
<td>Coding Procedures</td>
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<td>MRE 4203</td>
<td>Coding Procedures II</td>
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<td>MRE 4211</td>
<td>Health Data Processing</td>
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<tr>
<td>MRE 4304</td>
<td>Medical Record Department Management</td>
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<tr>
<td>MRE 4312</td>
<td>Analysis of Medical Record Department Operations</td>
<td>4</td>
</tr>
<tr>
<td>MRE 4400</td>
<td>Health Care Delivery Systems</td>
<td>4</td>
</tr>
<tr>
<td>MRE 4420</td>
<td>Health Legislation</td>
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<td>MRE 4500</td>
<td>Health Information Retrieval Systems</td>
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<tr>
<td>MRE 4830</td>
<td>Directed Practice III</td>
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<tr>
<td>MRE 4832</td>
<td>Directed Practice IV</td>
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<tr>
<td>MRE 4850</td>
<td>Medical Record Research</td>
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<tr>
<td>MRE 4835</td>
<td>Management Affiliation</td>
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</tbody>
</table>

4. Restricted Electives: None

5. Electives: None

Total Semester Hours Required: 135

**PROGRAM IN MEDICAL LABORATORY SCIENCES**

**Director:** M. Kangelos, HP 216, Phone (407) 275-2359

**Faculty:** Heinsohn, Sweeney

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, limited access Medical Laboratory Sciences Program. Separate application must be made through the Medical Laboratory Sciences Office prior to February 1 of the year for which admission is sought. For the last seven months of the program the students will be assigned to a hospital laboratory for clinical experience. The affiliated hospitals are located in Lakeland, Orlando, and Winter Haven. It may be necessary for the student to move to Lakeland, Orlando, or Winter Haven for this period.

The degree in Medical Laboratory Sciences 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 Laboratory Sciences, the graduate will be eligible to write a national certification examination and the State of Florida licensure examination.

**BACHELOR OF SCIENCE: MEDICAL LABORATORY SCIENCES**

**Degree Requirements**

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses
   - Prerequisites for professional phase admission
     - BSC 2010C General Biology 4 hours
     - MCB 3013C General Microbiology 5 hours
     - MCB 3203 Pathogenic Microbiology 3 hours
     - CHM 2045, 2046 Chemistry Fundamentals I & II 7 hours
     - CHM 2046L Chemistry Fundamentals Laboratory 1 hour
     - CHM 2205 Introduction to Organic & Biochemistry 5 hours
The nursing curriculum at UCF and its extension campuses leads to the Bachelor of Science in Nursing degree, the basis of professional nursing practice. The BSN graduate is prepared to provide comprehensive care in a variety of acute, community and rehabilitative settings. Program emphasis includes clinical nursing practice, health promotion and maintenance, and preparation for assuming leadership roles. The baccalaureate curriculum provides the foundation for graduate study in nursing.

Acceptance to the University does not constitute admission to the upper-division, limited access nursing major. Applicants for Fall admission must make SEPARATE APPLICATION directly to the Admissions Office prior to February 1st. R.N.s and minority applicants receive special consideration. Completion of the A.A. degree or General Education Program is required. Graduates are eligible to take the licensing examination for registered nurses.

Courses for nurses registered in the United States are offered at the Orlando, Daytona, and Brevard campuses, including examinations for selected courses. R.N. students must be registered professional nurses in the State of Florida.

BACHELOR OF SCIENCE: NURSING

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and or department requirements
3. Required Courses

Prerequisites to Nursing Major
- MCB 3013C General Microbiology 5 hours
- ZOO 3733C Human Anatomy 4 hours
- PCB 3703C Human Physiology 4 hours
- CHM 2205 Introduction to Organic/Biochemistry 5 hours
- STA 2014 Principles of Statistics 3 hours

Course Details:
- CHM 3120C Analytical Chemistry 5 hours
- MAC 1104 College Algebra 3 hours
- STA 3023 Statistical Methods I 3 hours
- CGS 3000 Computer Fundamentals for Business Applications I 3 hours

Upper Division Professional Phase
- PCB 3233 Immunology 3 hours
- PCB 3703C Human Physiology 4 hours
- MLS 3220C Techniques in Clinical Microscopy 2 hours
- MLS 3305C Hematology 4 hours
- MLS 3930 Concepts in Laboratory Education/Management 3 hours
- MLS 4830C, 4831C, 4832C, 4833C, 4834C Clinical Practice I, II, III, IV, & V 20 hours
- MLS 4405C Clinical Pathogenic Microbiology 4 hours
- MLS 4625C, 4630C Advanced Clinical Chemistry I & II 8 hours
- MLS 4334C Hemostasis 2 hours
- MLS 4550C Clinical Immunohematology 4 hours
- MLS 4420C Clinical Mycology 1 hour
- MLS 4431C Clinical Parasitology 2 hours
- MLS 4511C Immunodiagnostics 5 hours
- MLS 4910 Fundamentals of Research for Health Professionals 3 hours
- MLS 4932 Medical Technology Seminars 2 hours

4. Restricted Electives: None
5. Electives: None

Total Semester Hours Required: 140
<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>SOW 3104</td>
<td>Assessing Human Development</td>
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<td>or DEP 3004</td>
<td>Developmental Psychology</td>
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<tr>
<td>HUN 3011</td>
<td>Human Nutrition</td>
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<td>HSC 4550</td>
<td>Pathophysiologic Mechanisms</td>
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<tr>
<td>NUR 3119</td>
<td>Introduction to Baccalaureate Nursing</td>
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<tr>
<td>*NUR 3748C</td>
<td>Concepts Basic to Nursing Practice</td>
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<tr>
<td>NUR 3066</td>
<td>Health Assessment</td>
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<tr>
<td>*NUR 3749C</td>
<td>Scientific Theories of Nursing I</td>
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<td>*NUR 3795</td>
<td>Nursing Seminar I</td>
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<td>*NUR 3755C</td>
<td>Scientific Theories of Nursing II</td>
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<td>Nursing Seminar II</td>
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<td>NUR 3166</td>
<td>Critical Inquiry</td>
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<tr>
<td>NUR 4756C</td>
<td>Scientific Theories of Nursing III</td>
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<td>NUR 4758C</td>
<td>Scientific Theories of Nursing IV</td>
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<td>NUR 4660</td>
<td>Complex Nursing Problems</td>
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<td>NUR 4757C</td>
<td>Scientific Theories of Nursing V</td>
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<td>NUR 4797</td>
<td>Seminar III</td>
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<tr>
<td>NUR 4941</td>
<td>Selected Nursing Practicum</td>
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<tr>
<td>NUR 3709</td>
<td>Transitional Concepts in Nursing</td>
<td>6</td>
</tr>
</tbody>
</table>

4. Restricted Electives: One course in nursing

5. Electives: None

Total Semester Hours Required 142

*Students who are Registered Nurses in Florida may write examinations for credit for these courses during enrollment in:

NUR 3709  Transitional Concepts in Nursing 6 hours
The baccalaureate Radiologic Sciences program is designed with two areas of specialization: (1.) Radiography (2.) Radiation Therapy Technology.

Radiographers and Radiation Therapy Technologists are integral members of the healthcare team dedicated to providing high quality patient care. The primary role of radiographers is to perform medical imaging procedures for the diagnosis and treatment of disease and injury. Radiation Therapy Technologists work closely with oncologists to deliver high energy radiation for the treatment of cancer.

The Radiography specialization is designed to provide the graduate with medical imaging, management and instructional skills. Graduates are prepared to assume leadership roles in the professional community as radiographers and with experience, advance to positions in management, education, and/or quality assurance.

The program works in conjunction with Central Florida Regional Hospital, Sanford; Florida Hospital, Altamonte Springs; Jewett Orthopaedic Clinic, Winter Park; Halifax Medical Center, Daytona; Waterman Medical Center, Eustis; Winter Park Memorial Hospital, Winter Park.

The programs in Radiography and Radiation Therapy Technology are accredited by the Committee on Allied Health Education and Accreditation (CAHEA) in cooperation with the Joint Review Committee on Education in Radiologic Technology (JRCERT). Graduates are eligible to apply for admission to the certification exam administered by the American Registry of Radiologic Technology (ARRT). The University of Central Florida is the sponsoring institution for the Radiography program, Halifax Hospital Medical Center is the sponsoring institution of the Radiation Therapy program.

The application deadline for admission to the upper division, limited access phase of the program is February 1. Professional courses begin during the summer semester. After successful completion of the Summer semester and continuance in the Fall semester, students may apply for admission to the Radiation Therapy area of specialization. Classes in Radiation Therapy begin in January.

Extension study programs for registered technologists are offered through the Brevard Center, Cocoa and Hillsborough Community College, Tampa.

Students considering a career in radiology are encouraged to enroll in the Introduction to Radiologic Sciences course (RTE 1002). This course may be completed prior to beginning the limited access phase of the program.

MINOR

The Program in Radiologic Sciences offers a Health Physics Technology Minor designed to prepare graduates for employment with various agencies concerned with radiation monitoring and protection. The minor is open to Radiologic Science majors and students from other majors who have completed the following prerequisite courses or approved equivalents: BSC 2010C, MAC 1104, PHY 2053C, 2054C, STA 3023, CGS 1060. Radiologic Sciences majors must complete seventeen (17) semester hours credit in addition to their required courses to complete the Health Physics Technology minor.

Required Courses: RTE 3387C, RTE 4569, RTE 4362, RTE 3341, RTE 3365, RTE 3388, RTE 3841

BACHELOR OF SCIENCE: RADIOLOGIC SCIENCES

Degree Requirements
1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required courses

Prerequisites

<table>
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<tr>
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<tbody>
<tr>
<td>BSC 2010C</td>
<td>General Biology</td>
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<td>PHY 2053C</td>
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<tr>
<td>ZOO 3733C</td>
<td>Human Anatomy</td>
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Professional Phase
Radiography Program of Study

**JUNIOR LEVEL—Summer Semester**

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>*ATE 1002</td>
<td>Introduction to Radiologic Sciences</td>
<td>3</td>
</tr>
<tr>
<td>*ATE 3123</td>
<td>Introduction to Patient Care</td>
<td>2</td>
</tr>
<tr>
<td>*ATE 3528C</td>
<td>Radiographic Procedures I</td>
<td>3</td>
</tr>
<tr>
<td>*RET 3412C</td>
<td>Principles of Radiographic Exposure I</td>
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**JUNIOR LEVEL—Fall Semester**

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<tr>
<td>RTE 3806</td>
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<tr>
<td>*ATE 3549C</td>
<td>Radiographic Procedures II</td>
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<tr>
<td>*ATE 3457C</td>
<td>Principles of Radiographic Exposure II</td>
<td>3</td>
</tr>
<tr>
<td>*ATE 3684</td>
<td>Physics of Image Production</td>
<td>2</td>
</tr>
<tr>
<td>ACG 2001</td>
<td>Principles of Accounting I</td>
<td>3</td>
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<tr>
<td>HSC 3640</td>
<td>Health Law</td>
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**JUNIOR LEVEL—Spring Semester**

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<tr>
<td>RTE 3387</td>
<td>Medical Physics</td>
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<tr>
<td>RTE 3564</td>
<td>Special Radiographic Procedures</td>
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<td>RTE 3816</td>
<td>Clinical Education II</td>
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<tr>
<td>STA 3023</td>
<td>Statistical Methods I</td>
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<tr>
<td>HSA 3122</td>
<td>US Health Care Systems</td>
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<td>PHY 2054C</td>
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**SENIOR LEVEL—Summer Semester**

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<tr>
<td>RTE 4826</td>
<td>Clinical Education III</td>
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<tr>
<td>RTE 4566</td>
<td>Advanced Imaging Modalities</td>
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**SENIOR LEVEL—Fall Semester**

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<tbody>
<tr>
<td>RTE 4876</td>
<td>Clinical Education IV</td>
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<tr>
<td>RTE 4362</td>
<td>Radiobiology</td>
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<tr>
<td>RTE 4207</td>
<td>Methods of Radiology Management</td>
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<tr>
<td>HSC 4550</td>
<td>Pathophysiologic Mechanisms</td>
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<tr>
<td>EDG 4321</td>
<td>Teaching Strategies</td>
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**SENIOR LEVEL—Spring Semester**

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<td>RTE 3156</td>
<td>Radiographic Pathology</td>
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<td>RTE 4569</td>
<td>Quality Assurance</td>
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<tr>
<td>RTE 4720</td>
<td>Anatomy for the Medical Imager</td>
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</table>

Select One:

- RTE 4209  Radiological Administrative Practice | 2 hours
- RTE 4256  Directed Study in Clinical Education | 2 hours

Radiation Therapy Technology Program of Study

**JUNIOR LEVEL—Summer Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tr>
<td>RTE 1002</td>
<td>Introduction to Radiologic Sciences</td>
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<tr>
<td>RTE 3123C</td>
<td>Introduction to Patient Care</td>
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<tr>
<td>RTE 3528C</td>
<td>Radiographic Exposure I</td>
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<tr>
<td>RTE 3412C</td>
<td>Principles of Radiographic Exposure I</td>
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**JUNIOR LEVEL—Fall Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>RTE 3806</td>
<td>Clinical Education I</td>
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<tr>
<td>RTE 3549C</td>
<td>Radiographic Procedures II</td>
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<td>RTE 3457C</td>
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<tr>
<td>RTE 3684</td>
<td>Physics of Image Production</td>
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<tr>
<td>PHY 2054C</td>
<td>College Physics II</td>
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</table>
### JUNIOR LEVEL—Spring Semester
- RAT 3001 Introduction to Radiation Oncology  
  3 hours
- RAT 3242 Oncologic Pathology  
  2 hours
- RAT 3241 Clinical Radiobiology  
  3 hours
- RAT 3614 Radiation Therapy Physics I  
  2 hours
- RTE 3816 Clinical Education II  
  4 hours
- HSC 4550 Pathophysiologic Mechanisms  
  3 hours

### SENIOR LEVEL—Summer Semester
- RAT 4027 Radiation Oncology I  
  3 hours
- RAT 4618 Radiation Therapy Physics II  
  4 hours
- RTE 4826 Clinical Education III  
  5 hours

### SENIOR LEVEL—Fall Semester
- RAT 4028 Radiation Oncology II  
  3 hours
- RAT 4619 Radiation Therapy Physics III  
  4 hours
- EVT 3371 Essential Teaching Skills in Voc. Ed.  
  3 hours
- RTE 4876 Clinical Education IV  
  6 hours
- STA 3023 Statistical Methods I  
  3 hours

### SENIOR LEVEL—Spring Semester
- RTE 4843 Clinical Education V  
  6 hours
- RTE 4720 Anatomy for the Medical Imager  
  3 hours
- RTE 4256L Directed Study in Clinical Education  
  2 hours
- HSA 3122 US Health Care Systems  
  3 hours

4. Restricted Electives
5. Electives: None

Total Semester Hours Required: 138

*Students who are Registered Technologists (ARRT) may write examinations for credit for these courses during enrollment in:
- RTE 3050 Transitional Concepts in Radiologic Sciences  
  6 hours

### DEPARTMENT OF CARDIOPULMONARY SCIENCES
PROGRAM IN ADVANCED CARDIOPULMONARY STUDIES

**Interim Chair:** S. Douglass, HP 350, Phone (407) 275-2214  
**Medical Director:** L. Acierno  
**Faculty:** Core, Crittenden, Lytle, Worrell

The Department of Cardiopulmonary Sciences currently encompasses two academic areas: the undergraduate curriculum leading to the Bachelor of Science Degree in Cardiopulmonary Sciences and the graduate curriculum leading to the Cardiopulmonary Sciences Option in the Master of Science Degree in Health Sciences (see graduate catalog for further information).

During the next several years, the Department of Cardiopulmonary Sciences will be undergoing changes and may combine with other departments. This will allow the faculty to concentrate on baccalaureate and graduate courses which will augment previous course work taken at UCF or a community college.

The Cardiopulmonary Sciences Department will maintain its accreditation with the Joint Review Committee for Respiratory Therapy Education during this reorganization.

As the health industry changes, Respiratory Therapists must continue to grow and change with it. This means that the baccalaureate individual should possess basic entry level skills and the desire to acquire more knowledge. A solid foundation in the sciences is necessary to enable the student to move ahead and meet the rapid sophisticated changes taking place in the health care industry today.

This Department will continue to accept Associate in Arts (AA) and Associate in Science (AS) transfers until such time that administration completes the reorganization of the college.

Students indicating Cardiopulmonary Sciences as their major, must be accepted by the University and meet all the requirements for admission to the upper-division. NO separate application will be necessary for the department.
# Bachelor of Science: Cardiopulmonary Sciences

## Degree Requirements

1. See Undergraduate Degree Requirements
2. See special college and/or department requirements
3. Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
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<td>CHM 1034</td>
<td>General Chemistry</td>
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Prerequisites: The student will select one science course (min of 3 hours) with the approval of their advisor.

### College of Health Core: Select ONE course with advisor

<table>
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<tr>
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<tbody>
<tr>
<td>HSC 3531</td>
<td>Medical Terminology</td>
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<td>HSC 3930</td>
<td>Health Law</td>
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<tr>
<td>HSA 3122</td>
<td>U.S. Health Care Systems</td>
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### Upper-Division Professional Phase

#### FALL

<table>
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<th>Course Title</th>
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<tr>
<td>HSC 4550</td>
<td>Pathophysiologic Mechanism</td>
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<tr>
<td>RET 3026C</td>
<td>Intro to Respiratory Therapy</td>
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<tr>
<td>APB 3263C</td>
<td>Cardiopulmonary Physiology</td>
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<tr>
<td>APB 3650</td>
<td>Medical Pharmacology I</td>
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<tr>
<td>RET 3714C</td>
<td>Pediatric Respiratory Care</td>
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#### SPRING

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<tr>
<td>RET 3264C</td>
<td>Mechanical Ventilation</td>
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<tr>
<td>APB 4650</td>
<td>Medical Pharmacology II</td>
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<tr>
<td>RET 3244C</td>
<td>Life Support Systems</td>
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<tr>
<td>RET 4414C</td>
<td>Pulmonary Diagnostics</td>
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<tr>
<td>RET 4503</td>
<td>Chest Medicine</td>
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<tr>
<td>RET 3483</td>
<td>R.T. Disease Assessment</td>
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#### SUMMER

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<tr>
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<td>Neonatal Medicine</td>
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<tr>
<td>RET 4040</td>
<td>Respiratory Education</td>
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<td>RET 3874</td>
<td>Clinical Practice I</td>
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#### FALL

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<tr>
<td>RET 3875</td>
<td>Clinical Practice II</td>
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<td>RET 4284C</td>
<td>C.P. Diagnostics I</td>
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<tr>
<td>HSA 4180</td>
<td>Organization and Management of Health Agencies</td>
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### Corequisites: The student will select one science course (min of 3 hours) with the approval of their advisor.
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<td>RET 4285C</td>
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<td>RET 4034</td>
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<td>2 hours</td>
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<td>Clinical Practice III</td>
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<td>C.P. Diagonostics II</td>
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<td>Medical Research Seminar</td>
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<tr>
<td>Problems in Patient Management</td>
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</table>

Total Semester Hours Required: 136 hours
The College of Extended Studies develops, coordinates and implements noncredit and sponsored credit institute programs of extension, outreach, and continuing education in cooperation with academic colleges and departments of the university. Learners wishing to continue their education are offered, as an alternative to regular credit courses, opportunities for academic credit, professional and personal growth and enrichment at off campus locations. The primary purpose is to provide lifelong learning opportunities by utilizing university resources to benefit nontraditional and traditional learners.

A broad spectrum of programs, many designed specifically for individuals and groups, include short courses, in-service training, conferences, seminars, institutes, special training programs, study-travel programs, and workshops. Educational courses are conducted in cooperation with outside agencies for non-matriculated and nontraditional students who wish to complete baccalaureate degree requirements. Professional level courses are offered to meet the educational needs of business, professional, government, service, and civic organizations. To substantiate the content of professional programs as well as to offer credentialing to verify the learner’s participation, Continuing Education Units (CEU) are offered to qualified and eligible participants.

Additionally, training activities can be custom designed for specific professional groups or organizations desiring to complement their internal personnel training and development programs. Specialized certification courses, in response to legislative mandates (e.g. certified risk managers in certain health care facilities) are also offered.

The College of Extended Studies administers the Center for Multilingual Multicultural Studies, the Institute of Government, the Management Institute, and the Real Estate Institute which is located at the University’s North Campus. Registration in the College of Extended Studies courses does not require admission to the university nor does it imply acceptance.

The Center, established at the University of Central Florida provides English instruction for foreign students and area business persons. The intensive English program combines the latest in teaching methodology with computer assisted instruction. Fulltime students enrolled at the Advanced level may elect to take courses as nondegree seeking students while enrolled in the English language program. Student (F-1) visas are extended to qualified applicants. Special attention is given to preparing students for academic coursework in their specialized fields of study. Four levels of instruction are offered which range from Beginning to Advanced.

Moreover, the Center offers courses for community residents and foreign students already accepted to academic programs. These courses include Accent Reduction, TOEFL Preparation, Academic Writing for Nonnative Speakers, and specialized courses in foreign languages: Spanish for the Business Executive and French for Hospitality Management.

Through the College of Extended Studies, the Institute of Government, offers assistance to elected and appointed officials, managers, administrators, department heads and supervisors of local government on topics selected by the local government Steering Committee. Training workshops, conferences, seminars, technical assistance, video tapes (for in-house training) and research on special topics are provided. The Institute of Government at the University of Central Florida responds to the needs of an eleven county service area in Central Florida.

The Management Institute is the continuing education outreach program of the College of Business Administration. The basic charter is to transfer knowledge and technology from the faculty in the college to the business community. This transfer is accomplished by presenting programs in three different formats: open enrollment, in-house programs, and...
programs conducted in conjunction with professional organizations. The educational content falls within the basic functional areas of business; Accounting, Economics, Finance, Management, and Marketing. Programs are offered both on the main campus, at the satellite campuses, and at client company locations.

REAL ESTATE INSTITUTE

The Real Estate Institute, through the College of Extended Studies offers continuing education courses, workshops and institutes for the Real Estate profession. Pre-license courses offered satisfy Florida Real Estate Commission requirements; post-licensing courses develop expertise in specialized areas such as appraising, property management, and mortgage brokering.

The Institute offices are housed in the University’s newest facility: the North Center Campus in Winter Park. Courses, workshops, and institutes are offered throughout the eleven county service area of the University of Central Florida.
INSTITUTES AND CENTERS FOR RESEARCH

CENTRE FOR ECONOMIC EDUCATION
The Center for Economic Education strives to increase public knowledge of economic principles and their applications in daily life. Researchers at the Center develop, collect, and distribute economic educational materials. They also consult with, and provide instruction to area schools (K-12), community colleges, and community organizations. Instruction focuses on the principles of economics and their use in making rational economic decisions. Additionally, the Center conducts research in economic education.

Contact Person: Robert L. Pennington, Director, PH 310, Phone (407) 275-2870

CENTRE FOR RESEARCH IN ELECTRO-OPTICS AND LASERS
The Center for Research in Electro-Optics and Lasers (CREOL) is an interdisciplinary institute that links high technological industry to University research and degree programs in advanced optics. CREOL conducts research in laser propagation, laser/materials, interaction, laser development, ultra-fast phenomena (femtosecond laser interactions), detector technology, nonlinear optics, fiber optics, optical processing, thin film optics, image processing, and stimulated scattering and nonlinear optical spectroscopy. The Center integrates its research efforts with industry and education.

CREOL helps its corporate members to expand their research and development, identifies important needs and future trends in electro-optics and lasers, promotes communication between its members and other research institutions studying optics, and supports the activities of electro-optics companies. CREOL also provides faculty and students with basic coursework in physical optics, laser physics, laser systems, Fourier optics, and mathematical methods. Additionally, CREOL incorporates into its education program coursework in electrical engineering, physics, and specialized courses in electro-optics and lasers.

Laboratory research facilities accommodate femtosecond, high rep-rate picosecond YAG, nanosecond YAG, picosecond YAG, single mode CO2 analysis, electro-optics, optics, experimental mechanics, solid state laser, turbulence, and propagation.

Contact Person: M. J. Soileau, Director, CB 419, Phone (407) 281-5138.

DICK POPE, SR. INSTITUTE FOR TOURISM STUDIES
The Dick Pope Sr. Institute for Tourism Studies serves Florida tourism through research, promotion, public awareness programs, and education.

The Institute conducts studies in domestic and international tourism, the decision-making process of tourists, the attitudes of travel agents toward Florida, the economic impacts of tourism, and conducts marketing research for theme parks. Additionally, the Institute publishes the Tourism Barometer II, a quarterly projection of Florida tourism activity. This publication is distributed state-wide.

The educational needs of the tourism industry are met with credit and non-credit coursework. The four-year baccalaureate program in hospitality management prepares students to work as managers in the hospitality and tourism industries. Non-credit, non-degree programs tailored to the needs of specific enterprises and professional associations of the tourism industry include short courses, seminars, workshops, conferences, in-service training programs, and executive development programs.

Contact Person: Abraham Pizam, Director, PH 102, Phone (407) 275-2188.

FLORIDA SINKHOLE RESEARCH INSTITUTE
The Florida Sinkhole Research Institute acts as a central clearinghouse for data and professional expertise on the sinkhole problem. The Institute provides a public service by aiding homeowners with information and advice, and also conducts extensive research about the sinkhole problem.

Contact Person: Barry F. Beck, Director, CB 318, Phone (407) 275-2043.
INSTITUTE FOR SIMULATION AND TRAINING
The Institute for Simulation and Training (IST) is an interdisciplinary organization that develops research programs in simulation and simulation training devices. The Institute draws on the expertise of faculty and academic resources of the University of Central Florida, the Naval Training equipment center, the Army Project Manager for Training Devices, and many industrial affiliates in simulation and training.

The Institute conducts research in a variety of areas related to simulation and training. These areas include simulation/gaming, special purpose computer architecture, software engineering, logistics systems, computer generated imagery systems, human factors engineering, instruction systems design, technical/instructional writing, electro-optics application in training, operations research, data base design and development, computer-based design and development, computer-based instruction, artificial intelligence, and robotics.

Contact Person: A. Louis Medin, Director, TR 534, Phone (407) 281-5155.

INSTITUTE FOR STATISTICS
The Institute for Statistics provides statistical consulting and analytical support to all areas of the University. The Institute makes valuable contributions to research by supporting non-statistical researchers with statistical consulting assistance during the planning of experiments and investigations, and analysis of data, and the evaluation of results.

The Institute also provides statistical support to various governmental agencies and private organizations.

Contact Person: Dale F. Kraemer, Acting Director, BIO 330, Phone (407) 275-2289.

INSTITUTE FOR TECHNICAL DOCUMENTATION
The Institute for Technical Documentation offers a variety of services of client companies; including the development of original technical documentation, the translation of documentation written in foreign languages, and the development of seminars to assist clients in writing their own documentation.

The Institute consists of a core of permanent professional staff, supplemented by University faculty, staff, and students, all of whom have demonstrated expertise in technical writing of documentation. These services are enhanced by the cooperative efforts of educators, engineers, foreign language experts, psychologists, and scientists who act as consultants to the Institute.

Computer-assisted processing aids in translating foreign languages, word processing and editing text, gathering reference material, and conducting information searches. Trained writers, established facilities, and continued contact with personnel in industry and research enable the Institute to engage in a wide variety of documentation projects.

Contact Person: Gloria W. Jaffe, Director, FA 450, (407) 275-2212.

MANAGEMENT INSTITUTE
The Management Institute of the College of business Administration provides seminars, workshops and conferences on business and management-related topics. The Institute is designed to support an organization's needs relating to every aspect of business management. This support may be in the form of short, intensive seminars presented on site or on campus; special topic seminars prepared for particular needs; or specially scheduled workshops and seminars. Excellence in programming and individual attention are key objectives of the Institute. Examples of seminars and workshops held include: Time Management, The Supervisor as a Successful Manager, Management Skills for Women, CPA Review, and Tax and Accounting Conference.

Contact Person: David J. Roberts, Director, PH 216, Phone (407) 275-2446.

SMALL BUSINESS DEVELOPMENT CENTER
The Small Business Development Center (SBDC) was established as part of a statewide program in cooperation with the U.S. Small Business Administration.

The resources of the SBDC are utilized to counsel and train small business clients and prospective owners in a variety of areas, including finance and accounting, marketing, production, engineering, and technical and paralegal problems.

Contact Person: Aloyse T. Polfer, Director, TR 522, Phone (407) 275-2796.
SMALL BUSINESS INSTITUTE

The Small Business Institute offers professional help to small businessmen in need of managerial guidance. The objectives of the institute are: to stimulate the expansion of existing small businesses; to encourage the formation of economically sound small businesses; to provide training to proprietors and employees of small businesses; to improve the quality of management and operation of business; to serve as a catalyst to focus resources on a variety of economic problems; to develop a clearinghouse for business data; and to increase the opportunities for socially and/or economically disadvantaged entrepreneurs to enter the economic mainstream.

Contact Person: Ronald S. Rubin, Director, PH 410, Phone (407) 275-2682.
COURSE DESCRIPTIONS

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 SYG-000 at a community college, he cannot be required to repeat SYG-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 nonequivalent 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 SYG-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 SYG 1000; a school offering the same course in the sophomore year will number it SYG 2000. The variance in the 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 Sociolo-
gy," 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)
- Marine Biology OCB-013L (lab only)
- with lab OCB-013C (lecture & lab combined)

Therefore, OCB 013C is equivalent to OCB-013 plus OCB-013L.

An alphabetical listing of prefixes:

- ACG Accounting General
- ACO Accounting: Occupational/Technical
- ADV Advertising
- AFH African History
- AFR Air Force ROTC
- AMH American History
- AML American Literature
- ANT Anthropology
- APA Applied Accounting
- APB Applied Biology
- ARE Art Education
- ARH Art History
- ART Art
- ASH Asian History
- AST Astronomy
- AVM Aviation Management
- 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
- CET Computer Engineering Technology
- CGS Computer General
- CHI Chinese
- CHM Chemistry
- CHS Chemistry-Specialized
- CIS Computer & Information Systems
- CJT Criminal Justice Technology
- CLA Classical and Ancient Studies
- CLP Clinical Psychology
- COC Computer Concepts
- COE Cooperative Education
- COM Communications
- COP Computer Programming
- COT Computer Theory
- CPO Comparative Politics
- CRM Computer Resources/Management
- CRW Creative Writing
CYP  Communication Psychology
DAA  Dance Activities
DAE  Dance Education
DEP  Development Psychology
EAB  Experimental Analysis of Behavior
EAS  Engineering: Aerospace
ECI  Engineering: Civil
ECM  Engineering: Computer Mathematics
ECO  Economics
ECP  Economic Problems & Policy
ECS  Economic Systems & Development
EDA  Education: Administration
EDE  Education: Elementary
EDF  Education: Foundation
EDG  Education: General
EDH  Education: Higher
EDM  Education: Middle School
EDP  Education: Psychology
EDS  Education: Supervision
EEC  Education: Early Childhood
EED  Education: Emotional Disorders
EEL  Engineering: Electrical
EES  Environmental Engineering Science
EET  Electrical Electronic Technology
EEX  Education: Exceptional Child-Care Competencies
EGC  Guidance & Counseling
EGM  Engineering: Mechanical
EGN  Engineering: General
EIN  Engineering: Industrial
ELD  Education: Specific Learning Disabilities
EMA  Engineering: Material
EME  Education: Technology & Media
EML  Engineering: Mechanical
EMR  Education: Mental Retardation
ENC  English Composition
ENG  English-General
ENL  English Literature
ENU  Engineering: Nuclear
ENV  Engineering: Environmental
ENY  Entomology
EPH  Education: Physical & Multiple Handicapped
ESE  Education: Secondary
ESI  Engineering Systems-Industrial
ESL  English as a Second Language
EST  Electronic Specialty Technology
ETC  Engineering Tech: Civil
ETG  Engineering Tech: General
ETI  Engineering Tech: Industrial
ETM  Engineering Tech: Mechanical
EUH  European History
EV1  Education: Visually Impaired-Blind
EVS  Environmental Science
EVT  Education: Vocational/Technical
EXP  Experimental Psychology
FIL  Film
FIN  Finance
FLE  Foreign Language Education
FOT  Foreign & Biblical Languages in Translation
FRE  French Language
FRW  French Literature (Writings)
FSS  Food Service Systems
GEA  Geography: Regional Areas
GEB  General Business
COURSES NUMBERED 0-999

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 (Statewide 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.

<table>
<thead>
<tr>
<th>Undergraduates</th>
<th>Special Grad¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directed Independent Studies</td>
<td>3905 4906 5907</td>
</tr>
<tr>
<td>Directed Independent Research</td>
<td>4912 5917</td>
</tr>
<tr>
<td>Special Topics/Seminars</td>
<td>3930 4932 5937</td>
</tr>
<tr>
<td>Internships, Practicums, Clinical Practice</td>
<td>3940 4941 5944²</td>
</tr>
<tr>
<td>Directed Independent Research</td>
<td>4912 5917</td>
</tr>
<tr>
<td>Cooperative Education (COE)³</td>
<td>1949, 2949, 3949, 4949 5949</td>
</tr>
</tbody>
</table>

¹The Special Graduate Courses are primarily for graduate students, but may be taken by advanced seniors with the consent of their deans.
²Enrollment is limited to those students who are fully admitted to the Graduate Program.
³Enrollment is limited to those students who are admitted into the co-op program.

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 3120C Analytical Chemistry I: CHM 3120C 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.


ACG 3023 Principles of Accounting I and II: PR: Junior standing and MAC 1104 or equivalent. Same as 2001, 2011. Credits may not be earned in both ACG 3023 and the ACG 2001, 2011 sequence.

ACG 3103 Financial Accounting I: PR: Junior standing and MAC 1104, ECO 2013, ECO 2023; and ACG 2011 or ACG 3023 or its equivalent with a grade of "C" in the accounting course. The accounting process, content and analysis of financial statements and framework of accounting theory.

ACG 3113 Financial Accounting II: PR: ACG 3103 with a grade of "C" or better. A continuation of ACG 3103.

ACG 3301 Management Accounting: PR: C.I. and Junior standing. To thoroughly familiarize the student with the various uses of accounting information for planning and control.
Sub-Saharan Africa - Eastern and Southern: PR: EUH 2000 and 2001 or C.I. Survey of history of Eastern and Southern Africa including origins of man, Bantu migrations, Arab and European influences, and colonial and national periods.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFR 1101</td>
<td>The Air Force Today: Capability and National Security I: 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.</td>
<td>US 1(1,1)</td>
</tr>
<tr>
<td>AFR 1111</td>
<td>The Air Force Today: Capability and National Security II: PR: AFR 1101 or permission of Professor of Aerospace Studies. A brief review of the Army, Navy, and Marine force. An introduction to special operations and counterinsurgency.</td>
<td>US 1(1,1)</td>
</tr>
<tr>
<td>AFR 2130</td>
<td>The Development of Airpower: PR: AFR 1111 or approval of the PAS. A study of the development of airpower from experiments by 18th century balloonists to the achievement of combat airpower capabilities during World War II.</td>
<td>US 1(1,1)</td>
</tr>
<tr>
<td>AFR 2131</td>
<td>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.</td>
<td>US 1(1,1)</td>
</tr>
<tr>
<td>AFR 3220</td>
<td>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.</td>
<td>US 3(3,1)</td>
</tr>
<tr>
<td>AFR 3230</td>
<td>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.</td>
<td>US 3(3,1)</td>
</tr>
<tr>
<td>AFR 4201</td>
<td>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.</td>
<td>US 3(3,1)</td>
</tr>
<tr>
<td>AFR 4210</td>
<td>Implementation of Defense Policy: PR: AFR 4201 or approval of PAS. An examination of defense implementation and its impact on the decision-making process. A study of the military justice system and its protection of individual rights.</td>
<td>US 3(3,1)</td>
</tr>
<tr>
<td>AMH 2010</td>
<td>U.S. History: 1492-1877: Survey of U.S. history from 1492-1877.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>AMH 2020</td>
<td>U.S. History: 1877-Present: Survey of U.S. history from 1877 to the present. May be taken before AMH 2010.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>AMH 3316</td>
<td>Sport in America: History of sport from colonial times to present. Emphasis on social and economic development, intercollegiate and professional sport, and changing attitudes toward work, sport and play.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>AMH 3370</td>
<td>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.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>AMH 3402</td>
<td>History of the South to 1865: PR: AMH 2010 or 2020 or C.I. Development of the southern colonies, beginning sectionalism, the cotton economy, slavery. Calhoun's constitutional theories, secession, Civil War and its aftermath.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>AMH 3403</td>
<td>History of the South Since 1865: PR: AMH 2010 and 2020 or C.I. Reconstruction, the &quot;solid South&quot; and the racial dilemma, progressivism for whites only, southern literature, 20th century economic, political and social changes, and the new Reconstruction.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>AMH 3421</td>
<td>History of Florida to 1845: PR: AMH 2010 and 2020 or C.I.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>AMH 3423</td>
<td>Florida History 1845-Present: PR: AMH 2010 and 2020 or C.I.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>AMH 3441</td>
<td>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.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>AMH 3442</td>
<td>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.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>AMH 3443</td>
<td>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.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>AMH 3460</td>
<td>History of Urban America: Cities as &quot;spearheads in the wilderness, anturban bias, urban promotion, rivalry, industrialization, ethnicity, reform movements including public health, housing, planning.&quot; Metropolitanism and demographic trends.</td>
<td>AS 3(3,0)</td>
</tr>
</tbody>
</table>
AMH 3540 Military History: A survey of US military history from the European background of the colonial period through the contemporary military experience.

AMH 3560 Women in American History: Women in colonial America, "republican" motherhood, "separate spheres," suffrage battle, entry into paid labor force, new educational and professional opportunities, changing family pattern, "new" feminism.

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 3800 Canadian History: Canada since Colonial times and the present but with emphasis on the period since the British North America Act, 1867.

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 Confederation, 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 4160 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 4201 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 I: 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 4313 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, 1753-1789.

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  AS 3(3,0)
Colloquium in Late 19th Century U.S.: PR: Senior Standing or C.I. Reading and class discussion on the literature on selected topics of late 19th century U.S.

AMH 5296  AS 3(3,0)
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  AS 3(3,0)
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  AS 3(3,0)
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  AS 3(3,0)
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  AS 3(3,0)
Colloquium in U.S. Diplomatic History: PR: Senior Standing or C.I. A survey of the historical literature of American foreign policy.

AML 2011  AS 3(3,0)
American Literature I: PR: ENC 1102. Major American writers from beginning through Whitman.

AML 3020  AS 3(3,0)
American Literature II: PR: ENC 1102. Major American writers from Twain to present.

AML 4101  AS 3(3,0)

AML 4261  AS 3(3,0)
Literature of the South: PR: ENC 1102 or C.I. Development of Southern literature from its beginnings in the "Old South" through the post-Civil War and the Southern Renaissance to the present. Emphasizes reading from Poe, Ransom, Tate, Faulkner, Porter, Warren, O'Connor, Percy and Styron.

AML 4321  AS 3(3,0)

ANT 2003  AS 3(3,0)
General Anthropology: An introductory survey of the four major subfields of anthropology: Social Anthropology, Physical Anthropology, Linguistics and Archaeology.

ANT 3000  AS 3(3,0)
Human Origins (Anthropology I): The evolution of human society from foraging and hunting groups to the earliest cities and states.

ANT 3122  AS 3(3,0)
Archaeological Method and Theory: A survey of archaeological field and laboratory techniques, including the interpretation of written archaeological reports.

ANT 3141  AS 3(3,0)
The Emergence of Civilizations: The emergence of high civilizations in Europe, Africa, Asia, and the ancient Americas.

ANT 3142  AS 3(3,0)
Old World Prehistory: A comparative study of social evolution in Africa, Europe and Asia from the earliest humans to the beginnings of recorded history.

ANT 3144  AS 3(3,0)
Prehistory of the American Indians: The trajectory of New World society from the earliest big game hunters to the European conquest of the American civilizations.

ANT 3145  AS 3(3,0)
Archaeology of Complex Society: Theoretical perspectives on ancient hierarchies of power.

ANT 3153  AS 3(3,0)
Archaeology of North America: An introduction to the archaeology of North America including its prehistoric and historic aspects.

ANT 3162  AS 3(3,0)
Archaeology of Middle and South America: An introduction to the prehistory of Middle and South America focusing on the high civilizations up to and including the Spanish conquest.

ANT 3163  AS 3(3,0)
Mesoamerican Archaeology: An introduction to the prehistory of Mexico, Guatemala, and upper Central America from earliest times through the Spanish conquest.

ANT 3241  AS 3(3,0)
Magic, Ritual, and Belief: Patterns in religious behavior in various societies with primary emphasis on myth, rite, taboo and festival social phenomena.

ANT 3262  AS 3(3,0)

ANT 3271  AS 3(3,0)
Law and Culture: An introduction to law as an organizing force in society including a study of primitive forms of law and social control.

ANT 3302  AS 3(3,0)
Sex, Gender and Culture: The traditional and changing roles of women and men viewed in a cross-cultural perspective.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT 3311</td>
<td>Indians of the Southeastern United States: A study of the social and cultural</td>
<td>AS 3(3,0)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>history of the Indians of the Southeast.</td>
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<tr>
<td>ANT 3312</td>
<td>Ethnology of North American Indians: A survey of the aboriginal cultures of</td>
<td>AS 3(3,0)</td>
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<td></td>
<td>North America with emphasis on the pre-contact cultural condition.</td>
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<tr>
<td>ANT 3313</td>
<td>Indians of North America High Plains: A study of the social and cultural</td>
<td>AS 3(3,0)</td>
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<tr>
<td>ANT 3328</td>
<td>Maya Archaeology: An examination of the Prehistoric Maya culture focusing on</td>
<td>AS 3(3,0)</td>
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<td></td>
<td>both the archaeology and current issues in the field.</td>
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<tr>
<td>ANT 3332</td>
<td>People and Cultures of Latin America: An overview of the history and society</td>
<td>AS 3(3,0)</td>
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<td></td>
<td>of the peoples of Latin America emphasizing patterns of subsistence and social</td>
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<td></td>
<td>organization.</td>
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<tr>
<td>ANT 3360</td>
<td>Peoples of the Far East: A survey of the peoples of China, Japan and Korea</td>
<td>AS 3(3,0)</td>
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<tr>
<td></td>
<td>from the anthropological perspective.</td>
<td></td>
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<tr>
<td>ANT 3363</td>
<td>Anthropology of Japan: An examination of Japanese culture and its contemporary</td>
<td>AS 3(3,0)</td>
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<tr>
<td></td>
<td>behavioral and organizational patterns by drawing upon archaeology, cultural</td>
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<td></td>
<td>history, linguistics, cultural anthropology, and social organization.</td>
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<tr>
<td>ANT 3366</td>
<td>Cultural Anthropology (Anthropology II): An introduction to human diversity</td>
<td>AS 3(3,0)</td>
<td></td>
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<tr>
<td></td>
<td>as exemplified among various cultures and ethnic groups.</td>
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<tr>
<td>ANT 3418</td>
<td>Aging and Death: General considerations and theories of aging and death in a</td>
<td>AS 3(3,0)</td>
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<td></td>
<td>cross-cultural perspective.</td>
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<tr>
<td>ANT 3422</td>
<td>Peoples of the World: A comparative study of religion, family, politics,</td>
<td>AS 3(3,0)</td>
<td></td>
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<tr>
<td></td>
<td>philosophy, and other elements of socio-cultural organization of pre-literate</td>
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<td></td>
<td>societies.</td>
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<tr>
<td>ANT 3432</td>
<td>Culture and the Individual: Focus on the socio-cultural dimensions of child</td>
<td>AS 3(3,0)</td>
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<td></td>
<td>rearing, mental illness/mental health, sexual behavior, personality, and</td>
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<td>testing.</td>
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<tr>
<td>ANT 3462</td>
<td>Medical Anthropology: The therapeutic environment examined in a cross-cultural</td>
<td>AS 3(3,0)</td>
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<td></td>
<td>perspective. The implications of the comparative approach to health care in</td>
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<td></td>
<td>the industrialized world.</td>
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<tr>
<td>ANT 3511</td>
<td>The Human Species: Human biological variation in an evolutionary perspective.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>ANT 3512</td>
<td>Biobehavioral Anthropology: An introduction to the study of human behavior in</td>
<td>AS 3(3,0)</td>
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<td></td>
<td>terms of mutual interaction between human biology and cultural environments.</td>
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<tr>
<td>ANT 3516</td>
<td>Language and Culture: PR: Sophomore standing. The study of language in a</td>
<td>AS 3(3,0)</td>
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<td>non-western setting; language and behavior; language and perception.</td>
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<tr>
<td>ANT 3705</td>
<td>Action Anthropology: Application of principles of anthropology to problems of</td>
<td>AS 3(3,0)</td>
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<td></td>
<td>directed social and technological change.</td>
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<tr>
<td>ANT 4084</td>
<td>Anthropological Method and Theory: Method, theory, research design and field</td>
<td>AS 3(3,0)</td>
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<td>techniques in the anthropological endeavor.</td>
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<tr>
<td>ANT 4124</td>
<td>Advanced Archaeological Fieldwork: Supervised archaeological fieldwork.</td>
<td>AS 9(9,0)</td>
<td></td>
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<td>Students admitted only with permission of instructor.</td>
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<tr>
<td>ANT 4180</td>
<td>Seminar In Laboratory Analysis: The processing of archaeological finds from</td>
<td>AS 3(1,4)</td>
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<td>excavation through publication.</td>
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<tr>
<td>ANT 5479</td>
<td>Comparative Cultural Analysis: The dynamics of cultural processes in a</td>
<td>AS 3(3,0)</td>
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<td></td>
<td>multi-ethnic setting.</td>
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<tr>
<td>APA 3471</td>
<td>Accounting for Engineers: General Accounting principles and practice, cost</td>
<td>BA 3(3,0)</td>
<td></td>
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<tr>
<td></td>
<td>accounting, budgeting and control techniques. Not usable for BSBA degree</td>
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<td>credit.</td>
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<tr>
<td>APB 3263C</td>
<td>Cardiopulmonary Physiology: PR: PCB 3703C. Normal ventilation, lung mechanics,</td>
<td>HLTH 4(3,3)</td>
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<td>pulmonary circulation, diffusion and blood gases with an emphasis toward</td>
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<td>diagnostic cardiology.</td>
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<tr>
<td>APB 3600</td>
<td>Introduction to Pharmacology: Review of terminology and regulations. Study of</td>
<td>HLTH 3(3,0)</td>
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<td>drug types and usage.</td>
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<tr>
<td>APB 4651</td>
<td>Medical Pharmacology I: Drugs in pulmonary diseases; effects on nervous</td>
<td>HLTH 2(2,0)</td>
<td></td>
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<td>system, and neuroeffectors, depressants &amp; stimulants; influence on meabolism</td>
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<td>and endocrines. Brachodilators, mycolytics, etc.</td>
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</tbody>
</table>
APB 4652 Medical Pharmacology II: PR: APB 4651 or C.I. Drugs used in cardiovascular disorders. Includes inotropic, chronotropic agents, beta blocker drugs, calcium channel antagonists.

APB 5581 Applied Microbiology: PR: MCB 3013C or C.I. Microbial biochemistry of industrial processes including: economics, screening, scale up, quality control and applied genetics.

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, watercolor, crayon, tempera, acrylics, paper, fiber, and oils. Lab. TBA.

ARE 4444 Graphic Instructional Materials: PR: ARE 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 Three-Dimensional Instructional Materials: PR: ARE 4313 or C.I. Application of three-dimensional materials appropriate levels of instruction: wood, paper, plaster, stone, clay, wax fiber, metal, and synthetics. Lab. TBA.

ARE 5251 Art for Exceptionalities: Concepts, principles, and methods of integrating art processes into the education of the physically, emotionally, and mentally handicapped.

ARE 5255 Arts in Recreation: Art activities and experiences appropriate for use in playground, leisure services, occupational orientation and other recreational areas.

ARE 5358 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 5648 Contemporary Visual Arts Education: PR: ARE 4443 or C.I. Continued study of current programs and innovations in public school Visual Arts Programs.

ARH 2050 The History of Art I: Painting, sculpture and architecture from the Prehistoric Era through the Renaissance period.

ARH 2051 The History of Art II: Painting, sculpture and architecture from the Baroque through the 20th century.

ARH 3456 Art After 1945: A seminar for upper level art students to examine historically the art of Post WWII.

ARH 3520 African Art: Teach the continuatives between African, Afro-Caribbean and Afro-American Arts.

ARH 3530 Asian Art: History of visual arts of China, Japan, India and other Eastern cultures.

ARH 3683 Southern Folk Arts: History of Folk Architecture, Ceramics, Painting, Sculpture, Textiles and Toys in three main Southern ethnic cultures: EuroAmerican, Afro-American, and American Indian.

ARH 3710 History of Photography: The development of still photography in terms of historical, aesthetic and social content from 1839 to the present.

ARH 3802 Happenings Art: To study the aesthetic and social significance of "Total Art" in its attempt to break down the customary distinctions between life and art.

ARH 3820 History of Photography: The development of still photography in terms of historical, aesthetic and social content from 1839 to the present.

ARH 4071 Symbolism in the Visual Arts: A study of the origin, migration, and transmutation of signs, symbols and images in art history.
Greek & Roman Art: A study of the art and architecture of the ancient civilizations of the Mediterranean, comprising Greece, Etruria, and Rome.

Early Italian Renaissance Art: A survey of Italian Art and Architecture from 1300 to 1500.

Later Italian Renaissance Art: A survey of Art in Italy, from the High Renaissance through Mannerism.

Baroque Art: A study of European Art in the 17th and 18th centuries.

19th Century Art: A survey of the trends and developments in art during the 19th century, including the art of America and of Western Europe.

20th Century Art: A survey of the art from Fauvism, Futurism, Cubism to the art of the present.

Meso American Art: A survey of the art of Mexico and Central America, from the Pre-Colombian, through the Spanish Colonial, to the 20th century.

Mexican Art—Fieldwork: A field trip in connection with ARH 4655.

Environmental Art: Analysis of aesthetic design factors, related to city planning, architecture, product design, and experimental environmental arts.


Design Fundamentals I: Materials, processes, form. Emphasis on two-dimensional design problems, including problems in black and white and basic color theory.

Design Fundamentals II: Continuation of color theory and basic three-dimensional design using the various sculptural media.

Drawing Fundamentals I: Drawing as a means of formal organization. Introduction to problems in drawing methods and media. Emphasis on description techniques.

Drawing Fundamentals II: Continuation of ART 2300C.

Introduction to Computer Graphics: The principles underlying the generation and display of graphical pictures by computer. Topics include graphical software packages and graphics systems.


Ceramics: Basic concepts of ceramic design, experience in processes of forming, decorating, glazing, and firing pottery.


Graphic Design II: PR: ART 3280C or C.I. Methods, materials and processes related to perceptual studies in graphic design.


Type & Design: A survey of type, calligraphy and letter forms and their appropriate use as subject matter for graphic design and publication.

Intermediate Drawing I: PR: Six semester hours of Drawing Fundamentals or C.I. Intermediate problems in drawing with emphasis on the human form.

Intermediate Drawing II: PR: C.I. Continuation of Intermediate Drawing I.


Intermediate Drawing IV: PR: Continuation of Intermediate Drawing III.

Printmaking: PR: Three semester hours of Drawing Fundamentals or C.I.


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.
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 4166C

ART 4235C
Advanced Graphic Design: PR: ART 3280C, ART 3232C, or C.I. Practical studio problems with emphasis on organization of visual design elements.

ART 4237C
Special Problems in Graphic Design: PR: ART 3232C or C.I. Advanced problems in visual design and reproduction. May be repeated for credit.

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 4703C
Advanced Sculpture: PR: ART 3701C. May be repeated for credit.

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 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 3002
Astronomy: PR: PSC 1512. An up-to-date survey of the solar system, the properties and evolution of stars, galaxies, and cosmology. Optional night observation sessions offered.

AST 5081C
Astronomy for Teachers: PR: C.I. Elliptical Orbits, binary stars, luminosity, doppler shift, spectroscopy, steller evolution.

AVM 4510
Airline Management: PR: HFT 1000. The trends, operation, practices and procedures of the airline industry. Special emphasis on ticketing, scheduling, marketing and terminal management.

BCH 4053

BCH 4054
Biochemistry II: PR: BCH 4053. Continuation of BCH 4053.

BCH 4103L
Biochemical Methods: PR: BCH 4053 and CHM 3120C. A laboratory course stressing the application of the chemical arts to the separation, identification, and quantification of materials of biological significance.

BCN 4230

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 2010C
General Botany: PR: High school biology or C.I. Introduction to botany; plant structure and function with emphasis on forms and applications important to man.

BOT 3154
Local Flora: PR: BOT 2010C or C.I. Recognition and identification of Florida higher plants, especially...
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<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>BOT 3800</td>
<td>Plants and Man - Ethnobotany: PR: C.I. Man’s historical and modern uses of plants economically important in various cultures. Designed for majors and non-majors.</td>
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<tr>
<td>BOT 3820</td>
<td>Plants and the Urban Environment: PR: C.I. The selection, placement, propagation and care of ornamental plants in residential and industrial areas. Designed for majors and non-majors.</td>
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<tr>
<td>BOT 4223C</td>
<td>Plant Anatomy: PR: BOT 2010C. A study of development, structure and function of the principal organs and tissue of vascular plants.</td>
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<tr>
<td>BOT 4303C</td>
<td>Plant Kingdom: PR: BOT 2010C. A survey of the plant kingdom utilizing comparative morphology, structure and functions to demonstrate relationships among extant and extinct forms.</td>
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<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>
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<tr>
<td>BOT 4623</td>
<td>Plant Geography: PR: 8 hours Botany or C.I. The major climatic plant formations of the world and historical plant geography.</td>
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<tr>
<td>BOT 5495C</td>
<td>Bryology: PR: BOT 4303C 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>
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<tr>
<td>BOT 5705C</td>
<td>Plant Biosystematics: PR: Graduate standing or C.I. Evolutionary processes among plant taxa and populations utilizing cytology, morphology, biochemistry, breeding systems and co-evolution.</td>
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<tr>
<td>BSC 4034</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>
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<tr>
<td>BSC 4103C</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>
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<tr>
<td>BSC 2010C</td>
<td>General Biology: PR: High school biology or C.I. Basic principles, unifying concepts and facts of modern biology. Introduction to quantitative biological experimentation. For biological sciences, allied health sciences and preprofessional majors.</td>
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<tr>
<td>BTE 3391</td>
<td>Business Instructional Analysis I: PR: EDG 4321. Techniques, materials, and instructional media; psychological principles, evaluation, and current trends in typewriting instruction.</td>
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<tr>
<td>BTE 4071</td>
<td>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.)</td>
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<tr>
<td>BTE 4366</td>
<td>Business Correspondence: Originating written business correspondence to include letters, memoranda, and business forms. (Typewriting skill recommended.)</td>
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<tr>
<td>BTE 4392</td>
<td>Business Instructional Analysis II: PR: EDG 4321. Techniques, materials, and instructional media; psychological principles, evaluation and current trends in shorthand and related instruction.</td>
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<tr>
<td>BTE 4392L</td>
<td>Shorthand Laboratory for Instructional Development: CR: BTE 4392. Practical application of shorthand theory in the competency-based and traditional classroom. For Business Education majors only.</td>
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<tr>
<td>BUL 3111</td>
<td>Legal Environment of Business: PR: Junior standing. Analysis of the law as a dynamic social and political institution in the business environment, including ethical considerations. (Not open to Accounting majors).</td>
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CCJ 3452

**Business Law I**: PR: Junior Standing. Introduction to law: a social and political institution in the business environment. Analysis of statutory and common law principles involved in the formation, operation and termination of recognized business organizations. Analysis of the effects of government regulation on business activity, including anti-trust and securities regulation.

**Business Law II**: PR: BUL 3112. Coverage of the Uniform Commercial Code; the law of commercial transactions, including sales, commercial paper, secured transactions and suretyship, contracts, wills and trusts, and property law.

**Property Law**: PR: BUL 3111. An analysis of real and personal property law, bailments, and insurance.

**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.

**CAP 4453**

**Introduction to Robot Vision**: Pin hole camera and eye, perspective and orthographic projections, edges, regions, binary images, recognizing human faces, mobile robots, texture, illusions, robot arm kinematics.

**CAP 4600**


**CAP 5410**

**Computer Vision**: PR: COP 3530. Image formation, binary vision, region growing and edge detection, shape representation, dynamic scene analysis, texture, stereo and range images, and knowledge representation.

**CAP 5600**

**Artificial Intelligence and Prolog**: PR: CAP 4600. Analysis of deductive databases, applications of logic programming to knowledge representation and "expert systems."

**CAP 5601**

**Advanced Artificial Intelligence**: PR: CAP 4600. AI theory of knowledge representation, "expert systems," memory organization, problem solving, learning, planning, vision and natural language.

**CAP 5610**

**Machine Learning**: PR: CAP 4600 or C.I. Origin/evaluation of machine intelligence; machine learning concepts and their applications in problem solving, planning and "expert systems;" symbolic role of human and computers.

**CAP 5700**

**Computer Graphics Systems I**: PR: COP 3530 or equivalent. Architecture of graphics processors; display hardware; principles of programming and display software; problems and applications of graphic systems.

**CBH 3003**

**Comparative Psychology**: PR: PSY 2013. A study of comparative behaviors of lower animals.

**CCJ 3010**

**Crime in America**: A survey of crime and criminality in the United States with emphasis on crime data, its weaknesses, and types of criminal behavior.

**CCJ 3020**

**Criminal Justice System**: An examination of the components and of their interdependence in light of their traditional autonomy.

**CCJ 3210**

**Criminal Law in Action**: Basic concepts of criminal law: elements of major crimes, criminal responsibility, defenses, and parties to crime.

**CCJ 3290**

**Prosecution and Adjudication**: Examination of structures and goals of offices and prosecution and criminal trial courts, and of the processes of charging, adjudicating and sentencing defendants.

**CCJ 3300**

**The Corrections and Penology**: Theories, structures and methods of institutional and non-institutional processing and treatment of convicted criminals and juvenile offenders.

**CCJ 3341**

**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 3451**

**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 3452**

**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 3483**

**Public Sector Labor Relations in Criminal Justice**: Examine the role of public sector labor relations in criminal justice to include management-employee relationships and the collective bargaining process, criminal justice employee organizations, and federal and state collective bargaining laws.
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<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CCJ 4459</td>
<td>Justice Agency Operations: Elements, functions, and processes essential to the continuing management of various criminal justice agencies, institutions and court systems.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>CCJ 4481</td>
<td>Police and Society: PR: CCJ 3020. Examination of the dynamics of public expectations of police, the impact of community demographic changes and police alienation from the community.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>CCJ 4540</td>
<td>Delinquency Control: Examination of programs and institutions including juvenile court process, intake services, and remedial procedures and practices.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>CCJ 4630</td>
<td>Comparative Justice Systems: A survey of contemporary foreign criminal justice and differences emerging from various political, cultural and legal systems.</td>
<td>AS 4(4,0)</td>
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<tr>
<td>CCJ 4640</td>
<td>Organized Crime: An examination of organized crime including structures, history and activities, and of issues surrounding efforts to define and control it.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>CCJ 4941</td>
<td>Criminal Justice Internship: PR: C.I. Internship in municipal, county, state or federal criminal justice agency. Include assignments in police, courts, corrections components.</td>
<td>AS 6-9(0,12-36)</td>
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<tr>
<td>CCJ 5406</td>
<td>Research and Technology Implementation: Changing roles of social and physical sciences as related to the objectives and administration of public safety agencies.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>CCJ 5466</td>
<td>Finance and Planning for Public Safety: Acquisition, control and management of resources for criminal justice and public safety agencies; organization of finance systems, planning mechanisms and strategies for the budgetary process.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>CCJ 5487</td>
<td>Justice and Safety System Manpower: Processes essential to administration of human resources in criminal justice and public safety agencies; structure and processes for acquisition, training and maintenance of personnel.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>CCJ 5485</td>
<td>Issues in Justice Policy: Selected issues of public policy regarding the functions and roles of criminal justice agencies vis-a-vis other government departments or agencies and public purposes.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>CDA 4105</td>
<td>Introduction to Computer Architecture: PR: Computer Science Major or C.I. and COP 3402C and EEL 3341C. Survey of machine instructions, processor characteristics, and microprogramming concepts.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>CDA 4131</td>
<td>Programming for Large Scale Digital Systems: PR: Computer Science Major or C.I. and COP 3402C. Programming techniques and instruction sets for large scale digital computers.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>CDA 4300</td>
<td>Microprocessor Fundamentals: PR: Computer Science Major or C.I., COP 3402C and EEL 3341C.</td>
<td>AS 3(2,2)</td>
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<tr>
<td>CDA 4311</td>
<td>Microprocessor Application: PR: Computer Science Major or C.I. and CDA 4300. Total system design methodology and applications, advanced topics on microprocessors, patent search and applications.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>CDA 4312</td>
<td>Microprocessor Interface: PR: Computer Science Major or C.I. and CDA 4300. Interfacing of CPU to various devices, CPU support devices, peripheral devices and controllers, BUS concepts and standards, single chip computers.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>CDA 5106</td>
<td>Advanced Computer Architecture I: PR: CDA 4105. Evolution of computer architecture; memory organization; cache; virtual memory; highspeed processor design; pipeline multi-functional and array machines; special architecture case studies; overview of channel architecture.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>CDA 5110</td>
<td>Parallel Architecture &amp; Algorithms: PR: COT 4210, CDA 5106. General -purpose vs. special - purpose parallel computers; arrays, message-passing; shared-memory; Taxonomy; parallization techniques; communication synchronization and granularity; parallel data structures; automatic program restructuring.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>CDA 5210</td>
<td>Architecture and Design of VLSI Systems: PR: CDA 4105 or equivalent. Overview of VLSI technology. Stick diagrams; logical design of basic subsystems; integrated system design tools; design of a VLSI computer system.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>CDA 5212</td>
<td>VLSI Design Tools: PR: CDA 5210, a strong programming background and C.I. VLSI implementation systems; layout languages; graphic tools; sticks compactor; design rule checking algorithms; simulation models; routing algorithms; silicon compilers; knowledge-based VLSI tools.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>CDA 5213</td>
<td>VLSI Testing and System Integration: PR: CDA 5210. Test vectors; fault models; design for testability; LSSD; languages for testing; performance measurements; interrupts, BUS concepts and standards; testing and systems integration.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Name</td>
<td>Description</td>
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<tr>
<td>CES 4124</td>
<td>Structural Engineering Analysis: PR: EGN 3331C</td>
<td>Topics in structural mechanics, energy methods, indeterminate structures by flexibility, stiffness method, analysis of columns.</td>
</tr>
<tr>
<td>CES 4144</td>
<td>Matrix Methods of Structural Analysis: PR: EGN 3331C</td>
<td>Structural analysis of beams, frames, and plates by matrix methods.</td>
</tr>
<tr>
<td>CES 4605</td>
<td>Structural Steel Design: PR: CES 4124 or C.I.</td>
<td>Design of steel structural members. Selected topics in beam design, column design, plastic design, connections and built-up members.</td>
</tr>
<tr>
<td>CES 4609</td>
<td>Steel Design: PR: CES 4605.</td>
<td>Project course on design of steel structures using steel and structural analysis methodologies.</td>
</tr>
<tr>
<td>CES 4704</td>
<td>Structural Concrete Design: PR: CES 4124 or C.I.</td>
<td>Principles of designing reinforced concrete members. Selected topics in concrete mixes, beams, columns, and ultimate analysis.</td>
</tr>
<tr>
<td>CES 4709</td>
<td>Concrete Design: PR: CES 4704.</td>
<td>Project course on design of concrete structures using concrete and structural analysis methodologies.</td>
</tr>
<tr>
<td>CES 5107</td>
<td>Matrix Structural Analysis: PR: CES 4124 or equivalent.</td>
<td>Optimization and matrix methods applied to the design of real structures.</td>
</tr>
<tr>
<td>CET 3123C</td>
<td>Microprocessor Electronics: CR: EET 3035C</td>
<td>Introduction to the Electronics of Basic Microprocessing.</td>
</tr>
<tr>
<td>CET 3144C</td>
<td>Applied Microprocessor Technology: PR: CET 3123C</td>
<td>Analysis and design of the architecture, components, and interfacing of microprocessor-based systems. An overview of IBM XT, AT, and PS/2 series.</td>
</tr>
<tr>
<td>CET 3303</td>
<td>Microcomputer Technology I: PR: CET 3123C.</td>
<td>Microcomputer assembly programming including overview of architecture and operating system environment.</td>
</tr>
<tr>
<td>CET 3323C</td>
<td>Computer Organization Technology: PR: CET 3123C</td>
<td>Digital logic, memory devices, interrupt and I/O handling techniques.</td>
</tr>
<tr>
<td>CET 4131C</td>
<td>Microprocessor Electronics II: PR: CET 3123C.</td>
<td>A continuation of CET 3123C with emphasis on applications of Microprocessor applications in Engineering Technologies.</td>
</tr>
<tr>
<td>CET 4188</td>
<td>Microcomputer Technology II: PR: CET 3303.</td>
<td>Continuation of CET 3303. Macros, system subroutines, high-level language interfacing, device drivers, and operating system enhancements.</td>
</tr>
<tr>
<td>CET 4334C</td>
<td>Applied Computer Systems II: PR: CET 4333C.</td>
<td>Continuation of computer systems with emphasis on advanced hardware and I/O devices. Networking.</td>
</tr>
<tr>
<td>CET 4345</td>
<td>Minicomputer Applications in Technology: PR: CET 3323C.</td>
<td>Utilization of minicomputers in real time industrial and business environments. Analysis of data communications methods.</td>
</tr>
<tr>
<td>CET 4381</td>
<td>Digital Signal Processing: PR: EET 4328C and COP 1200 or equivalent.</td>
<td>Introductory treatments of the concepts of digital signal processing. Survey of current applications including consideration of available hardware and software.</td>
</tr>
<tr>
<td>CET 4427</td>
<td>Applied Data Base Systems: PR: CET 3383.</td>
<td>Design and implementation of data base systems within the concept of central administration, structured data storage. Programming project.</td>
</tr>
</tbody>
</table>
| CET 4505    | Applied Microcomputer Operating Systems: PR: COP 2001. | Modifying the operating systems to
support new types of devices. Analysis of limitations and strengths of commercial mass storage operating systems in industry. O.S. tool box usage.

**CET 4523**

Applied Systems Analysis II: PR: CET 3383. Continuation of CET 3383 with emphasis on distributed processing which include the interfacing of minis, mainframes, software, communications, and data base technology into a responsive information system.

**CET 4527**

Applied Operating Systems II: PR: CET 4505. Continuation of CET 4505 with emphasis on multi-tasking. Multi-users environmental programming project is required.

**CET 4915**

Senior Computer Systems Laboratory: PR: CET 3303. Experiments covering topics and devices in microcomputer electronics.

**CGS 1060**

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.

**CGS 3000**

Computer Fundamentals for Business Applications: Hardware/software for business data processing; survey use of business applications programs utilizing prewritten programs. Not open to Computer Science Majors.

**CGS 3061**

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.

**CGS 3100**


**CGS 3110**

Microcomputer Applications in the Classroom: An introduction to the microcomputer as it applies to classroom instruction. Includes a survey of software appropriate for the K-12 classroom.

**CGS 3282**


**CGS 3300**


**CGS 3422**

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.

**CGS 4140**

Computerized Health Information Systems: PR: CGS 3000 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.

**CGS 5111**

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.

**CGS 5310**

Computer Based Educational Systems: PR: COP 4020 or equivalent. The design and implementation of computer based educational systems. Selected projects using high-level programming languages.

**CHI 1120**

Elementary Chinese Language and Civilization I: Designed to initiate the student to the major language skills; listening, speaking, reading and writing.

**CHI 1121**

Elementary Chinese Language and Civilization II: PR: CHI 1120 or equivalent.

**CHM 1020**

Concepts in Chemistry: PR: MAC 1104 or MGF 1203. Concepts will be examined to provide insight into the significant role that chemistry plays in our culture. Intended as a general education course.

**CHM 1032**

General Chemistry: PR: MAC 1104, MGF 1203 or equivalent. An introductory study of the fundamental concepts of chemistry, primarily oriented toward COH and Biology Education majors.

**CHM 2045**

Chemistry Fundamentals I: PR: High School Chemistry or CHM 1032. Basic Physical theory of chemical reactivity, atomic structure, chemical bonding, periodicity, stoichiometry, equilibria, thermodynamics, and kinetics.
Chemistry Fundamentals II: PR: CHM 2045. Continuation of CHM 2045.

CHM 2046L

Chemistry Fundamentals Laboratory: PR: CHM 1032 or CR: CHM 2046. Illustration of chemical principles and introduction to the techniques of inorganic and physical chemistry.

CHM 2205

Introduction to Organic and Biochemistry: PR: CHM 1032 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 3120C

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 3049, and MAC 3312. Rigorous treatment of atomic and molecular structure, thermodynamics, kinetics, and chemical bonding.

CHM 3410L

Physical Chemistry Laboratory I: PR: CHM 3120C and COP 1200 or CGS 3422. CR: CHM 3410. A practical course in the use of computers for collecting and analyzing data from a select number of physical chemistry experiments.

CHM 3411

Physical Chemistry II: PR: CHM 3410. Continuation of CHM 3410.

CHM 3411L

Physical Chemistry Laboratory II: PR: CHM 3410L. 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 3120C 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 4221


CHM 4335


CHM 4590


CHM 4610


CHM 5710

Chemical Structure I: PR: CHM 3211, 3120C, 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 1440

Fundamentals of Chemistry for Engineers: PR: One year of high school chemistry or CHM 1032. Basic concepts of chemistry with emphasis on problem solving and engineering applications. Atomic and molecular structure, states of matter, stoichiometry, equilibria, electrochemistry and thermodynamics.

CHS 3501

Introduction to Forensic Science: Intended for majors and non-majors to provide an overview of the specialty areas in Criminalistics (crime lab).
### CHS 3505
**Forensic Microscopy:** PR: CHM 2046 or C.I. The study of the polarized light microscope and its use in the identification and comparison of trace evidence.

**CHS 3511**
**Trace Evidence:** PR: CHS 3505. An advanced study of the techniques used to identify and compare trace evidence.

**CHS 3531**
**Forensic Analysis of Controlled Substances:** PR: CHM 3120C. The study of the presumptive tests, isolation, and instrumental techniques used in identification of controlled substances.

**CHS 4110C**
**Nuclear and Radiochemistry:** PR: CHM 3120C 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 (15 weeks; 600 hours) for 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.

**CIS 4321**
**Data Processing Systems Analysis and Design:** PR: Computer Science Major or C.I. and COP 3530. Data organization; physical storage; database system architecture. Students participate in the design of a data processing system.

**CIS 4322**
**Data Processing Systems Implementation:** PR: Computer Science Major or C.I. and CIS 4321. System implementation project. Students experience the task of implementing a large computing system.

**CIS 5101**
**Computational Techniques in Management Information Systems:** PR: COP 4710. 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 5420**
**Managing the Computer Professional:** PR: COP 5711 and MAN 5051; or C.I. The programming group, team and project tasks, personality factors, motivating, training, experience.

**CIS 5610**
**Software Engineering:** PR: COP 4020. Study of design techniques for large software systems, modularization, task assignment, management techniques, implementation techniques, testing quality control, documentation and maintenance.

**CJT 3820**
**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.

**CJT 3821**
**Practical Security Applications:** An examination of basic security principles applied to practical specific security situations encountered in the Central Florida area.

**CJT 3842**
**Special Security Problems:** Review and application of basic security principles to retail security, transportation/cargo security, utility security, computer security, and other special security situation.

**CLA 3850**
**Classical Mythology:** Myths of the Greeks & Romans studied through excerpts from ancient sources and experienced through works of art, literature and music.

**CLP 3003**
**Psychology of Adjustment:** PR: PSY 2013. Psychological principles of adjustment; application of psychology to problems in living. Designed for non-majors.

**CLP 3143**
**Abnormal Psychology:** PR: PSY 2013. Classification, causation, and treatment of deviant patterns of behavior.

**CLP 3302**
**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 5004  AS 3(3,0)
Psychology of Adult Adjustment: A survey of situations encountered during adulthood, including marriage, birth, parenthood, trauma, illness, death, etc. Effective adjustment.

CLP 5166  AS 3(3,0)
Advanced Abnormal Psychology: Consideration of classification, causation, management and treatment of emotional disorders. Review of theories and research in the field. Lecture-Laboratory.

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 3011  AS 3(1,2)
Communication and Human Relations: Introduction to semantics; symbols and meaning and the relationship with human behavior.

COM 3110  AS 3(3,0)
Business and Professional Communication: PR: SPC 1014 or C.I. Theoretical and practical training in effective presentation/speaking for business and professions.

COM 320  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: Grammar proficiency examination. Basic principles of the behavioral science approach to the study of contemporary communication.

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 5625  AS 3(3,0)
Ethics in Communication: The critical examination of ethical issues in human communication.

COP 1200  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 2000  AS 3(3,0)
Programming I: PR: College algebra and college trigonometry. Techniques of algorithm development; structured programming concepts; algorithms for searching and sorting procedures; computer experience with a procedure-oriented language.

COP 2001  AS 3(3,0)

COP 3120  AS 3(3,0)

COP 3400C  AS 3(3,2)
Assembly Language: PR: COP 2001 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 3402C  AS 3(3,2)
Computer Systems Concepts/Programming: PR: COP 3400C. Linker, loader, assembler design and development. Detailed examinations of one computer's operating system and its associated architecture. Advanced topics in assembly language including file input/output.

COP 3530  AS 3(3,0)
Data Structures: PR: COP 2001. Basic concepts of data and abstract data types (arrays, linear lists, trees, etc.) and their possible implementations. Searching, sorting and other applications.

COP 4020  AS 3(3,0)

COP 4124  AS 3(3,0)
COBOL Environment: PR: Computer Science Major or C.I. and Computer Science core. Basic and advanced features; creation of user libraries; system utilities; file processing; sub-program linkage; programming efficiencies; compiler study; assembly interfaces and JCL.

COP 4600  AS 3(3,0)
Programming Systems: PR: Computer Science Major of C.I. and COP 3530. The function and organization of operating systems. Design and implementation considerations regarding operating systems, compilers, assemblers and loaders.

COP 4710  AS 3(3,0)
Databases: PR: Computer Science Major of C.I. and COP 3530. Basic concepts of databases, I/O processing, file organization and access, study of selected database systems, database project.
COP 5021 Programming Languages II: PR: COP 4020 and COT 4210. Introduction to compiler construction, parsing, parser generators, attributed grammars and the implementation of block structures and recursion. Students write a high-level language translator.

COP 5570 Software Tools: PR: COP 4600 and COP 5021. Systems programming languages, concurrent programming, design and implementation of software development/maintenance tools. A large programming project is required.

COP 5611 Operating System Design Principles: PR: COP 4600. Structure and functions of operating systems, process communications techniques, high-level concurrent programming, virtual memory systems, elementary queueing theory, security, distributed systems, case studies.


COT 3100 Introduction to Discrete Structure: PR: MAC 3311 and knowledge of a programming language. Logic, sets, functions, relations, combinatorics, graphs, Boolean algebra, finite-state machines, Turing machines, unsolvability, computational complexity.

COT 4210 Discrete Computational Structures: PR: Computer Science Major or C.I. and COT 3100, MAC 3312. Review of discrete structures, introduction to automation theory, computational complexity, analysis of algorithms, computability theory, and formal languages.


COT 5310 Formal Languages and Data Theory: PR: COP 4020 and COT 4210. Classes of formal grammars and their relation to automata, normal forms, closure properties, decision problems, LR(K) grammars.


COT 5410 Computational Complexity: PR: COT 4210. 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 5501 Computational Methods/Applications: PR: COT 4500. Computational solution techniques for algebraic equation, ODE and PDE Models of applications selected from science, engineering, applied mathematics, and computer science.

COT 5510 Computational Methods/Linear Systems: PR: COT 4500 and MAS 3113. Mathematical models for linear systems, linear programming, the simplex method, integer and mixed-integer programming, introduction to nonlinear optimization and linearization.

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 3132 Introduction to Canadian Studies: A multi-disciplinary approach to the study of Canada, its people, culture, government and economy.

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.
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.

Issues in Comparative Politics: PR: C.I. Analysis of contemporary problems and issues of comparative politics such as political economy, development, authority patterns, and instability.

Introduction to Fiction Writing: PR: ENC 1102. Practice in writing the short story; group analysis and criticism of work produced by individual students.

Introduction to Verse Writing: PR: ENC 1102. Practice in writing poetry; group analysis and criticism of work produced by individual students.

Introduction to Creative Writing: PR: ENC 1102. An exploratory course in the several types of creative writing; group analysis of original writing; critical reading of established authors.

Creative Writing Workshop I: PR: C.I. Practice in established forms: essay, short story and poetry.

Creative Writing Workshop II: PR: CRW 3001 or C.I. Individualized practice in writing in one of the established forms; analytic study of the work of pertinent authors.


Writing Scripts: PR: ENC 1102. Theory and practice of writing scripts for theatre, film and TV.

Advanced Writing Workshop I: PR: C.I. Intensive writing practice in fiction, non-fiction, or verse.

Advanced Writing Workshop II: PR: CRW 4940. Continuation of CRW 4940.

Teaching Creative Writing: PR: Senior standing or C.I. Creative writing practicum.

Theatre Dance: PR: DAA 3200 & 3201 or C.I. Specialized study of Theatre Dance styles of the 1920s to the 1960s. Demonstration and performance of students highlighting segments of Broadway shows. May be repeated for credit.

Theatre Modern Dance: PR: DAA 3200 & 3201 or C.I. Exploration of form, style, and technique in creative movement. Includes practical class work and history lectures.

Movement as an Art Form: Analysis of creative movement techniques that increase body awareness and enhance the communicative potential through the instrument of dance.

Theatre Dance I: Fundamentals of Classical Ballet, includes practical class work as well as Dance History lectures.

Intermediate Classical Ballet: PR: DAA 3200 or C.I. Indepth study of classical ballet technique including principles, theory and practice technique.

Beginning Jazz Dance: PR: DAA 3200 or C.I. Introduction of the basic movements of American Jazz Dance, including practical class work as well as Jazz Dance history.

Theatre Tap Dance: Exploration of form, style, and technique in the basic fundamental movements of tap dance. May be repeated for credit.

Intermediate Jazz Dance: PR: DAA 3200 & DAA 3500 or C.I. Indepth study of Jazz Dance as a major style of dance, using theory and practice in jazz technique.

Theatre Dance Choreography and Performance: PR: By audition. Students will create and present a piece choreographed and performed by other dancers in concert. May be repeated for credit.

Dance Techniques: Analysis of creative dance and movement techniques as they relate to the teaching of physical education.

Dance and Rhythmics: An analysis of creative movement and rhythmical activity as they relate to teaching physical education in grades K-8.

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DEP 3202 AS 3(3,0)
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 AS 3(3,0)
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 3464 AS 3(3,0)
Psychology of Aging: PR: PSY 2013. 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 function.

DEP 5057 AS 3(2,2)
Developmental Psychology: PR: Graduate admission or C.I. Psychological aspects of development including intellectual, social and personality factors.

EAB 3703 AS 4(3,2)
Principles of Behavior Modification: PR: EXP 3404. An examination of the control of behavior through applications of principles and theories of learning. Examples are drawn from clinical and social psychology and from child rearing. Lecture/Practicum.

EAB 3704 AS 3(3,0)

EAB 5765 AS 3(3,0)
Applied Behavior Analysis with Children and Youth: PR: DEP 5057 and EXP 5445 or C.I. Advanced survey of principles, procedures and techniques of applied behavior analysis, with special attention to applications with children and youth.

EAS 4101 EN 3(3,0)
Aerodynamics I: PR: EML 4709. Fundamental aerodynamic analysis of wings and bodies in incompressible and compressible flows.

EAS 4105 EN 3(3,0)

EAS 4200 EN 3(2,2)

EAS 4709 EN 3(3,0)

ECI 3404 EN 3(2,3)
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 EN 3(2,2)
Engineering and Environmental Geology: PR: CHS 1440 or equivalent. Principles of physical geology with emphasis on engineering and environmental topics. Study of land forms, geologic maps, geologic structure, weathering, ground weather, mass wasting, and earthquakes. Lab sessions are practical applications.

ECI 4134 EN 3(3,0)

ECI 4145 EN 3(3,0)
Construction Engineering I: PR: EGN 3331C and ECI 4305C. Building construction, materials and types of construction, soils in construction and handbook applications in the field of construction engineering. Also form work design.

ECI 4149 EN 3(3,0)
Construction Scheduling: Project planning, scheduling and cost management for building construction.

ECI 4305C EN 3(2,2)
Geotechnical Engineering I: PR: EGN 3331C and EGN 3353C. Engineering properties and classification of soils. Design considerations for compaction, seepage, consolidation, and settlement analysis.

ECI 4403 EN 3(3,0)
Construction Materials: Structural steels, concrete mixes, wood, masonry, concrete reinforcement, steel decks, formwork, insulation and interior finish materials.

ECI 5135 EN 3(3,0)
Construction Engineering II: PR: ECI 4145 or C.I. Construction planning, equipment, and methods used in heavy construction.

ECI 5147 EN 3(3,0)
Construction Law and Project Management: PR: C.I. Contracts, specifications, and law for engineers. Strategic planning, management, development, design, and production of construction projects. Value engineering, project funding and cash flow.
ECI 5215C
Hydraulic Engineering: PR: EGN 3353C. Environmental and civil engineering hydraulics application. Pipe and open channel flow, fittings, flow measurements, etc.
ECI 5306
Geotechnical Engineering II: PR: ECI 4305C. Continuation of ECI 4305C with emphasis on shear strength and design factors for earth pressures bearing capacity, and slope stability.
ECI 5315
Pavement Design: PR: ECI 4305C. Pavement types, wheel loads, stresses in pavement components, design factors such as traffic configurations, environmental, economic.
ECI 5433
Geotechnical Engineering Design: PR: ECI 4305C and ECI 5306. Project course on design of foundations and other soil structures using geotechnical design methodologies.
ECM 3507C
Computer-Aided Engineering Design: PR: EGN 3210 and EEL 3342C or C.I. Review of currently available CAE tools for digital hardware and software design applications.
ECM 4114
Engineering Mathematical Analysis: PR: MAP 3302. The application of mathematical methods to engineering problems. Vector and tensor fields, state space, coordinate systems, orthogonal functions.
ECM 4230
Engineering Data Structures: PR: EGN 3210 or equivalent, EEL 4701C or C.I. Analysis and design of data structures and associated processing algorithms. File system access, integrity, and design. Data retrieval and data management concepts.
ECM 4301
ECM 4411
ECM 4451
Engineering Applications of Intelligent Systems: PR: ECM 4504C, ECM 4230. Methods of intelligent machine design and engineering including intelligence models, computer vision, natural language understanding, pattern analysis, adaptive control, expert systems and advanced architectures.
ECM 4504C
Embedded Computer Systems: PR: EGN 3210 or equivalent, EEL 4701C. Computer applications in systems role, software tools, sensor interaction, interfacing.
ECM 4706C
ECM 4721C
Systems Lab Instrumentation: PR: EGN 4703. Introduction to the types of instrumentation used in the field of Industrial Process Control. Hands-on experience with controllers, sensors, transmitters and final control elements.
ECM 4804
ECM 4814
ECM 4910
Senior Project in Computer Engineering: PR: Senior Standing and C.I. Front-End Analysis, Design, Implementation, and Documentation of a representative Industrial System Design Project.
ECM 5135
ECM 5431
ECM 5432
ECM 5441
Image Processing: PR: MAP 3302, EGN 4703. Two dimensional signal processing techniques; pictorial image representation; spatial filtering; image enhancement and encoding; segmentation and feature extraction; introduction to image understanding techniques.
ECM 5453
Pattern Recognition: PR: MAP 3302, EGN 4703. Graph-theoretic and syntactic methods of pattern recognition.
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 5005</td>
<td>Economic Concepts: PR: Acceptance into the graduate program. Introduction to micro and macro economic analysis.</td>
</tr>
<tr>
<td>ECP 3203</td>
<td>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.</td>
</tr>
<tr>
<td>ECP 3424</td>
<td>The Economics of Regulated Industries: PR: ACG 2001, ACG 2011, or ACG 3023, 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.</td>
</tr>
<tr>
<td>ECP 4403</td>
<td>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.</td>
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</tbody>
</table>
Supervision of professional laboratory experiences program with emphasis on the role and responsibilities of the Teacher Education Associate or Supervising Teacher.
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 and Trends in Early Childhood Education: PR: Regular Certificate or C.I. Philosophy, content, facilities, instructional materials, and activities appropriate for children ages 3 to 8 years; current research; issues and trends. Concurrent laboratory experiences.

EEC 5206
Organization of Instruction in Early Childhood Education: PR: Regular Certificate or C.I. Organization in instruction relating to language arts, social sciences, sciences, mathematics, health and physical education, problems relating to reading readiness and cognition (K-3). 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 (K-3). Concurrent laboratory experience.

EED 4011
Introduction to the Emotionally Disturbed: PR: Senior standing. Development and practice of appropriate cognitive, affective and motor strategies for selected categories, levels, and degrees of severity of exceptional population.

EED 4212
Curriculum and Program Adaptations, E.H.: PR: Senior Standing. Development of highly specialized techniques and materials to be used with exceptional students.

EEL 3122

EEL 3140
Analog Filter Design: PR: EEL 3307C, EEL 3122. Analog filter design, both passive and active, from low pass prototypes using frequency transformations and based on low sensitivity.

EEL 3306
Semiconductor Devices I: PR: EGN 3373. Electronic devices including p-n junctions, bipolar transistors, field effect transistors and device models.

EEL 3307C
Electronic Engineering: PR: EEL 3306, EGN 3375C and MAP 3302. Electronic devices and circuits design including small signal amplifiers, and switching circuits.

EEL 3341C

EEL 3342C
Introduction to Digital Circuits and Systems: PR: PHY 3049 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 3470
Electromagnetic Fields: PR: EGN 3375C and MAP 3302. Introduction to electric and magnet fields and electromagnetic waves.

EEL 3552C

EEL 4305C

EEL 4343C

EEL 4436C
Microwaves: PR: EEL 3470. Microwave devices and systems and measurement techniques.

EEL 4440
Optical Engineering: PR: PHY 3049 or C.I. Lens systems, aberrations, sources, radiometry, detectors, physical optics, interferometric devices, applications to engineering design problems.

EEL 4512C
Communication Systems: PR: STA 3032, EEL 3552C and EEL 3307C. Information transmission, modulation, and noise; design and comparison systems in the presence of noise.

EEL 4570C
Data Communications Engineering: PR: EEL 4701C or ECM 4504C. Analysis, design and operation of Data Communications Systems. Applications in remote computing networks and process monitoring.

EEL 4571C
Data Acquisition and Control: PR: EEL 3122, EEL 3307C, EEL 3342C. Fundamentals of signal acquisition and conditioning, filtering, signal conversion, microcomputer input and output interface circuits, channels, transducers, feedback.
EEL 4701C
Digital Systems Organization: PR: EEL 3342C. 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 4800C

EEL 5173

EEL 5355C
Fabrication of Solid-State Devices: PR: EEL 3306. Fabrication of microelectronic devices, processing technology, ion implantation and diffusion, device design and layout. Laboratory includes device processing techniques.

EEL 5365
Introduction to Digital Systems: PR: EEL 3342C or equivalent. Analysis and synthesis of combinational, synchronous and asynchronous sequential logic circuits. Introduction to controller design using a digital design language.

EEL 5434
Microwave Solid-State Devices: PR: EEL 3470. Device and circuit principles of p-n junctions, BJTs, FETs, gunn, IMPATT, TRAPATT and BARITT diodes.

EEL 5441
Coherent Optics Applications: PR: EEL 3470 or C.I. Coherent optical radiation and propagation. Design and analysis of optical components and systems.

EEL 5446
Optical Systems Design: PR: C.I. Design principles of lens and mirror optical systems; evaluation of designs using computer techniques.

EEL 5451L
Electro-Optics Laboratory: PR: EEL 3470 or C.I. Study of laboratory techniques for optical measurements and performance of measurements on electro-optic devices to determine operational characteristics.

EEL 5461C
Antenna Analysis and Design: PR: EEL 3470 or equivalent. Fundamentals of antennas; dipoles, loops, arrays, apertures, and horns. Analysis and design of various antennas.

EEL 5517
Surface Acoustic Wave Devices and Systems: PR: EEL 3552C. Course discusses SAW technology which includes the physical phenomenon, transducer design and synthesis, filter design and performance parameters. Actual devices and communication systems are presented.

EEL 5542

EEL 5555
RF Communications: PR: EEL 3552C. RF communication systems, 10 MHz to 1500 MHz. Scattering parameter noise, receiver design, system implementation, spread spectrum, RF network and spectrum analyzers, PC board layout.

EEL 5563

EEL 5630
Digital Control Systems: PR: EEL 5173 and EEL 3342C. Real time digital control system analysis and synthesis. Digital compensation of control systems such as high accuracy positional control systems with encoder feedback sensors.

EES 3104C

EES 4202C
Chemical Process Control: PR: EGN 3704. Engineering design, measurements, and analysis of chemical systems in environmental engineering to control treatment processes such as softening, coagulation, disinfection, scrubbing, neutralization and others.

EES 4204C
EES 4404C  
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 5210C  
Potable Water Treatment: PR: EES 4202C and 4204C. Engineering application of potable water chemistry involving coagulation, softening, filtration, corrosion, disinfection quality and drinking water.

EET 3035C  
Electricity and Electronics: PR: MAC 1104 and MAC 1114. Basic principles of electric circuits and electronic amplifiers. Introduction to integrated circuits.

EET 3716  

EET 4158C  
Linear Integrated Circuits: PR: EET 3716. Study of linear integrated circuits and design of electronic systems.

EET 4329C  
Electronic and Digital Communications: PR: EET 3716. The study of active RF circuits and modulation/demodulation systems. Introduction to digital and data communications.

EET 4339C  
Antennas and Propagation: PR: EET 3716 and CGS 3422 or equivalent. Basic theory and technology used in high frequency transmission lines and wave-guides, propagation and radiation, antennas.

EET 4389C  
Satellite Communication Systems: PR: EET 4329C. Analysis of communications satellites and how they affect systems design; technology, tradeoffs, design strategies.

EET 4508  

EET 4548  

EET 4732  
Feedback Control: PR: EET 3716. LaPlace transform analysis of electrical networks and feedback control systems. Analysis and design techniques, control system components, and applications to practical control systems.

EEX 3010  
Orientation to Special Education: Definition, characteristics, theories, current trends, and controversies in the various categories of exceptional education.

EEX 3102  
Language Development and Common Disorders: PR: Junior standing. Interdisciplinary approach to language development, identification and remediation of common disorders.

EEX 3221  
Assessment of Exceptional Learners: PR: RED 3012 and MAE 3112. Diagnosis of learning problems of exceptional students; assessing performance and determining appropriate placement and programming.

EEX 3241  
Methods for Academic Skills for Exceptional Students: PR: RED 3012 and MAE 3112. Teaching strategies, plus types of teacher-made materials that apply to all categories, ages and levels of the exceptional population. Must be taken with or before Junior block.

EEX 3263  
Arts and Sciences for Exceptional Students: PR: Junior standing. Adapting curriculum, materials, and teaching strategies in the area of language arts, science, social studies, music and art for the exceptional student.

EEX 4243  
Techniques for the Exceptional Adolescent-Adult: A study of strategies, skills and alternative procedures when teaching adolescents and adults.

EEX 4601  
Behavioral Management: Study of management techniques based on behavioral management (applied behavioral analysis) principles for modifying the effective behavior of exceptional students.

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.

EGG 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.

EGG 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.

EGM 5584  
Biomechanics and Biomaterials: PR: EGN 3363C and EGN 3331C. Properties of natural biological
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 3311</td>
<td>Engineering Analysis-Statics</td>
<td>PR: PHY 3048; CR: 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 3323</td>
<td>Engineering Analysis-Dynamics</td>
<td>PR: EGN 3311; CR: MAC 3313. Kinematics and kinetics of particles and rigid bodies; mass and acceleration, work and energy 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 3375C</td>
<td>Electrical Devices and Systems</td>
<td>PR: EGN 3373. Continuation of EGN 3373. Electronic circuits, devices, and systems.</td>
</tr>
<tr>
<td>EGN 3420</td>
<td>Engineering Analysis</td>
<td>PR: MAC 1104; MAC 1114; a previous high order computer language. Computer-based applications of matrices, graphs and numerical methods for engineers.</td>
</tr>
<tr>
<td>EGN 3704</td>
<td>Engineering and the Environment</td>
<td>PR: CHS 1440 and MAC 3312. Process engineering for air, energy, water and land environment and the role of engineering in control of these environments.</td>
</tr>
<tr>
<td>EGN 4032</td>
<td>Professionalism, Practice and Ethics</td>
<td>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.</td>
</tr>
<tr>
<td>EGN 4624</td>
<td>Engineering Administration</td>
<td>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.</td>
</tr>
<tr>
<td>EGN 4703</td>
<td>Systems Analysis and Control</td>
<td>PR: EGN 3343, 3353C, 3373; MAP 3302. Analysis and design of process control systems including first and second order systems and classical linear control theory.</td>
</tr>
</tbody>
</table>
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.

Engineering and Technology in Canada: Historic and contemporary Canadian achievements in engineering and technology.

Science in History: Examination of the reciprocal relations of science and society from ancient to recent times.

Engineering and Technology in History: Important developments in engineering and technology and their effect on society and our socio-economic processes.

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.

Engineering and Technology in America: Episodes and periods of significant American technological change with emphasis on 19th and early 20th century developments.

Topics in Urban Development: Production, distribution and consumption of various commodities. Engineering relationships to distribution, internal structure, function of urban developments, interrelationships of engineering, social, economic and cultural phenomena.

Energy and Society: Investigation of available energy forms; energy resources versus requirements in an increasingly complex technological society; possible solutions and future predictions.

Environment and Society: PR: C.I. Environmental factors of importance to people's interaction with the environment; engineering and non-engineering measures to insure improvement and maintenance of environmental quality. Not for engineering students.

Computers, Cybernetics and Society: The effects of computers and the cybernetic revolution of the individual and society. Effects of positive and negative feedback on biological, technological and social systems. Computers and their interactions with the human system.

Systems Modeling: PR: CGS 1060 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.

Man and Machine: The influence and interrelationship of invention and technical progress on the evolution of social forms and institutions.

Engineering and Public Works: PR: C.I. The purposes, function, and role of engineering within public works.

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.


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.


Industrial Information Systems: PR: CGS 3422, 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.

Industrial Engineering Applications of Computers: PR: CGS 3422. Survey of computer methods in industrial engineering practice. Topics include simulation, information systems, dedicated processors, systems control. Lab exercises.

Industrial Engineering Senior Project Design: PR: Senior standing. Capstone design course, application of IEMS techniques to real world design applications.

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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 4364C  Industrial Facilities Planning and Design: PR: EIN 3315C. Comprehensive design of industrial production systems including interrelationships of plant location, process design, and materials handling. Laboratory assignments.

EIN 4391C  Manufacturing Engineering: Introduction to manufacturing engineering with emphasis on current and emerging technologies in metalworking and electronics.

EIN 4395C  Computer-Aided-Manufacturing: Computer-Aided-Manufacturing (CAM) including computer numerical control (CNC), robotics, parts classification (GT) and manufacturing resource planning (MRP).

EIN 5117  Management Information Systems I: PR: C.I. The design and implementation of computer-based Management Information Systems. Consideration is given to the organizational, managerial and economic aspects of MIS.

EIN 5248C  Ergonomics: PR: C.I. Applications of anthropometry, functional anatomy, mechanics and physiology of musculoskeletal system concepts in the engineering design of industrial tools, equipments and workstations.

EIN 5255  Training Simulator Engineering: Introduction to significant topics relative to the development and use of simulators for knowledge transfer in the technical environment.

EIN 5381  Engineering Logistics: Study of the logistics life cycle involving planning, analysis and design, testing, production, distribution, and support.

EIN 5388  Forecasting: PR: STA 5156, ESI 5170. Industrial applications of forecasting methods with emphasis on microcomputer based packages.


EIN 5602C  Expert Systems in Industrial Engineering: Overview of basic concepts, architecture and construction of expert systems in IE. Intelligent simulation training systems, case studies and problems. Laboratory exercises.

ELD 4011  Introduction to Specific Learning Disabilities: PR: Senior standing. Development and practice of appropriate cognitive, affective and motor strategies for selected categories, levels and degrees of severity of exceptional population.

ELD 4242  Program Planning for Specific Learning Disabilities: PR: Senior standing. Development of highly specialized techniques and materials to be used with exceptional students.

EMA 3012L  Experimental Techniques in Materials Engineering: PR: EGN 3363C or C.I. Metallurgical specimen preparation, metallography, heat treatment x-ray diffraction, electron microscopy, mechanical testing, wear and corrosion testing.


EMA 5106  Surface Science: PR: PHY 3049 and C.I. Methods of chemical and physical analysis of surfaces, with emphasis on ultra-high vacuum spectroscopies utilizing electron, ion and photon probes.


Corrosion and Electrochemical Engineering: PR: EGN 3363C. Electrochemical principles and applications to detecting and monitoring corrosion processes. Various forms of corrosion, their causes and control. Application in electric vehicles and electrochemical machining.

Mechanical Metallurgy: PR: EML 3234. Study of the microscopic mechanical behavior of metals and alloys with emphasis on fracture, fatigue and creep.

Utilizing Media and Library Resources: PR: Junior standing, completion of Basic General Education requirements. Planning, producing and utilizing media for effective presentation. Use of the library, resources, and services. Research methods and bibliographic skills.

Technologies of Instruction & Information Management: Theories and practices in utilizing instructional media and information technologies. Emphasis on new and emerging technologies and their effects on the school and media program.

Instructional Systems: A Survey of Applications: Applications of instructional technology in settings other than public schools. Survey of facilities, programs, and services in business, industry, religion, government, higher education and medical settings.

Communication for Instructional Systems—Process: Principles of written and oral communications for instructional technologists; development of assertiveness and interpersonal skills; conducting training programs for employees; creating hard copy materials.

Communication for Instructional Systems—Application: PR: EME 5056. Applications of technology, communications theory, platform skills, and instructional design to the effective presentation of training programs and instruction.

Production Techniques for Instructional Settings: Skills in producing instructional materials. Emphasis on graphic, audio, video and photographic skills and the application of instructional and communication theories.

Media for Children and Young Adults: Survey of materials for children’s and young adults’ informational and recreational needs; analysis, evaluation, and utilization of print and non-print materials.

Computer Applications in Instructional Technology. Techniques and skills for the use of computers for productivity and instruction by the instructional technologist.

Thermodynamics of Mechanical Systems: 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.


Kinematics of Mechanisms: PR: EGN 3321. Graphical, mathematical, and computer-aided kinematics, analysis, and synthesis of basic mechanisms.


Machine Design and Analysis: PR: EGN 3331C. Application of the principles of mechanics of materials to the design of mechanical elements.


Dynamics of Machinery: PR: EML 3262, EML 4222. Critical speeds and response of flexible rotor systems, whirl, gyroscopic effects; balancing of rotating and reciprocating masses; cam dynamics.

Mechanical Power Systems: PR: EML 3106. Analysis and design of large power generating systems and components with emphasis on steam plants utilizing both chemical and nuclear fuels.

EML 4505 Engineering Design: PR: EML 3106 and EML 3502 or EAS 4200 and EAS 4300. Application of the design process in the solution of a state-of-the-art problem. Aerospace, mechanical, thermal, or fluid problems are considered.

EML 4535 Computer Aided Design: PR: EML 3106, 3502, and CGS 3422 or equivalent. Introduction to computational methods in mechanical and thermal systems design.

EML 4709 Fluid Mechanics II: PR: EGN 3353C, continuation of EGN 3353C. Application of fundamentals to boundary layers, compressible flow, potential flow theory, submerged bodies, and measurements.


EML 5228 Acoustics: PR: MAP 3302. 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.

EML 5237 Intermediate Mechanics of Materials: PR: EGN 3331C 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.

EML 5245 Tribology: Principles of fluid film lubrication; bearing design and application; friction and wear of materials.

EML 5271 Intermediate Dynamics: PR: EGN 3321, 3331C. Dynamics of particles, distributed mass systems, and rigid bodies from an advanced viewpoint. Virtual work. Lagrange's and Euler's equations. Hamilton's equations.


EML 5451 Energy Conversion: PR: EML 3106 and PHY 3101. Direct methods of energy conversion; particular emphasis on fuel cells, thermoelectrics, thermonics, solar energy, photovoltaics and magnetohydrodynamics.

EML 5453 Energy Analysis: 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.

EML 5454 Photovoltaics: PR: EGN 3375C, EGN 3331C, or C.I. Direct conversion of solar energy into electricity; crystalline and thin-film cell technologies; stand-alone and utility-interactive applications; emphasis on system design, sizing and analysis.

EML 5455 Energy Conservation: 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.

EML 5609 Environmental Thermodynamics: PR: EML 3106 and EML 4142. Thermodynamics of the environment emphasizing analysis and design of thermal systems. Building heating and cooling load calculations and energy conservation technologies analyzed.


EMR 4011 Introduction to Mental Retardation: PR: Senior standing. Development and practice of appropriate cognitive, affective and motor strategies for selected categories, levels and degrees of severity of exceptional population.

EMR 4372 Curriculum Method and Materials for Retarded Persons: PR: Senior Standing. Development of highly specialized techniques and materials to be used with exceptional students.
SELECTED COURSES IN ENGLISH

ENC 1101 Composition I: Expository writing with emphasis on effective communication. Writing topics to be based on selected readings.

ENC 1102 Composition II: PR: ENC 1101. Frequent writing based on the analysis of short stories, dramas, poems, and a novel.

Note on Freshman English Program:
ENC 1101 and 1102 must be taken before enrolling in any English course numbered above 1102.

ENC 1121 Honors Freshman Composition I: PR: Score of 60+ on TSWE of SAT or C.I.

ENC 1122 Honors Freshman Composition II: PR: Freshman Composition I instructor's recommendation or C.I.

ENC 2290 Careers in Writing: An examination of career opportunities in technical writing, emphasizing industrial, commercial, and governmental opportunities.


ENC 3211 Introduction to Technical Writing: Provides definition, history, rhetorical bases of Technical Writing and its relationship to general English studies.


ENC 3283 Science and the Lay Reader: PR: ENC 3310, ENC 3311 or ENC 3341 or C.I. Analysis of lay scientific magazine articles and practice in scientific writing for the lay audience.

ENC 3310 Magazine Writing I: PR: ENC 1102. 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.

ENC 3311 Advanced Expository Writing: PR: ENC 1102. Practice of expository writing directed to general reader.

ENC 3341 Magazine Writing II: PR: ENC 3310 or C.I. Structure and organization of articles, essays, profiles, and reviews; market analysis; data gathering. May be repeated for credit.


ENC 4218 Graphics Capabilities for the Technical Writer: PR: ENC 4293; to be taken concurrently with ENC 4215. Study and preparation of visuals and graphics in technical writing and documentation: use of computer graphics; slides; transparencies; charts; graphs; drawings.

ENC 4245 Writing from Engineering Documents: PR: C.I. Introduction to reading and interpretation of basic engineering charts: specs; vocabulary, design and the writing techniques necessary for clear translation.

ENC 4254 Technical Writing and the Uses of Imagination: PR: ENC 3310 or ENC 3311 or ENC 3341. An analysis of and practice in imaginative approaches to scientific or technical ideas.


ENC 4293 Technical Documentation I: PR: ENC 3210 or 3341. Practice in translating highly technical information to organized documentation: hardware, software, military specifications. Theory of designing and organizing technical manuals. Preparation of proposals. Interview skills.

ENC 4294 Technical Documentation II: PR: ENC 4293. Practical application of editing theory to large ongoing projects from the student's particular field. Should be taken concurrently with ENC 4215.

ENC 4295 Technical Documentation III: PR: ENC 4294. Designing, writing, and illustrating manuals, e.g., repairs, maintenance or users. Project supervised by a member of a student's major department or technical editor of a corporation.

ENG 3010 Practical Criticism: PR: ENC 1102. Student evaluation of selected fiction, poetry and drama through practical exercises in literary criticism.

ENG 3820 Careers in English:
ENG 5018
Literary Criticism: PR: Graduate standing or C.I. Historical survey of major critics from classical antiquity to the modern era.

ENG 5028
Rhetoric and Literature: PR: Graduate standing or C.I. Investigates the development of written strategies of persuasion. Traces their relation to practical and imaginative literature. Applications to classroom teaching of literature and composition.

ENL 2010
English Literature I: PR: ENC 1102. Beowulf to 1660.

ENL 3021
English Literature II: PR: ENC 1102. From 1660 to 1870.

ENL 3273
Survey of British Literature Since 1914. PR: ENC 1102

ENL 3334
Shakespeare Texts and Film: PR: ENC 1102. An introduction to the art of William Shakespeare through comparative analysis of selected plays and their representation in film.

ENL 4101

ENL 4311
Chaucer: PR: ENC 1102. The Canterbury Tales, Troilus and Criseyde, and other works.

ENL 4330
Shakespeare Studies: PR: ENC 1102. Reading, analysis, and discussion of Shakespeare's plays. May be repeated for credit.

ENL 4341

ENL 4353
18th Century Studies: PR: ENC 1102. Reading, analysis and discussion of literature in English: 1660-1890. May be repeated for credit.

ENL 4373

ENL 5176
Restoration and 18th Century English Drama. PR: Senior standing or C.I.

ENL 5226
English Renaissance Poetry and Prose: PR: Senior standing or C.I. The course will examine selected poetry and prose of Wyatt, Surrey, Sidney, Spenser, Marlowe, Raleigh, Daniel, Shakespeare, Chapman, Lyly, and others.

ENL 5236
The Age of Dryden and Pope: PR: Senior standing or C.I. Prose, poetry, drama and literary traditions of British neoclassicism.

ENL 5335
Studies in Shakespeare: PR: Senior standing or C.I. A selection of representative plays with emphasis on Shakespeare's development as an artist: aesthetics of dramatic literature.

ENL 5347

ENU 4103
Nuclear Engineering: PR: 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.

ENU 5005

ENV 4119
Air Pollution: PR: EGN 3704, EGN 3353C. Sources, causes, and effects of air pollution. Engineering design, analysis and modeling for the control of air pollution.

ENV 4355
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 4403C
Hydrology: PR: STA 3032; EGN 3353C. Hydrological cycle, probabilistic forecasting, rainfall excess, meteorology, groundwater, storm-water runoff, flood routing and design applications.

ENV 4404C
Hydraulics: PR: EGN 3353C. Transmission systems, peak flows, water distribution, wastewater and storm water collection, pipe flow, open channels and pumps with design applications.

ENV 4433
Water Resources Design: PR: ENV 4403C and ENV 4404C. Project course on designs of large and small water transmission systems using local and state regulations.

Environmental Engineering -- Process Design: PR: EGN 3704 and EGN 3353C. Water treatment and wastewater treatment design considerations with effluent and sludge handling, treatment and disposal.

Urban Systems Engineering: PR: C.I. Theories and history of city development with administrative, planning, management and maintenance of municipal services.

Research Methods in Environmental Engineering: PR: STA 3032, ENV 4504 or C.I. Experimental design and modeling of environmental engineering systems using fundamental concepts of computer programming, probability and statistics.

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 and Sociological Implications of Handicapping Conditions: Overview of physical and sociological factors which may contribute to delayed learning or physical impairments in the exceptional populations. Physical interventions and first-aid practices are examined.

Junior Student Teaching -- Secondary Level: PR: EDG 4321. 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. Student teaching in a secondary school under the direction of a certified classroom teacher. Scheduled concurrent seminars.


Engineering Reliability and Quality Assurance: PR: STA 3032 or C.I. Design and management of reliability programs and quality assurance systems; mathematics of reliability.

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.

System Simulation with Digital Computers: PR: CGS 3422 or equivalent. Methods and procedures for simulating large scale systems with digital computers. FORTRAN, CSMP and GPSS programming languages are used.

Microcomputer Practicum: PR: Graduate standing or C.I. Survey of personal computer programming and use in decision support applications in engineering.

Reliability Engineering: PR: ESI 4234, or equivalent or C.I. Reliability theory and modeling approaches. Topics include: failure data analysis, maintainability, reliability standards (DOD), software reliability, reliability in design, and electronic systems reliability.

Operations Research: PR: EGN 4634. Methods of operations research including formulation for models and derivation of solutions; linear programming, network models queuing theory, simulation and nonlinear optimization techniques.

Discrete Systems Simulation: PR: STA 3032, CGS 3422. Methods for performing discrete systems simulation, including network modeling will be treated.

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.

Electro-Mechanical Design: PR: EET 3035C. Introduction to mechanical and electromechanical devices and their applications in industry.

ETC 4415  EN 3(2,2)
Applied Structural Design II: PR: ETC 4410C. Design applications of continuous beams, single span frames, and tapered members.

ETG 3510  EN 4(4,0)

ETG 4530  EN 3(3,0)
Strength of Materials: PR: ETG 3510. Relationship between external forces and action of members of a structure. Topics include stress and strain, beams, trusses, columns, fatigue and modes of loading.

ETG 4931  EN 3(3,0)
Current Topics in Technology: PR: C.I. Recent state-of-the-art topics that are particularly relevant for graduates planning to work in high-tech industries.

ETI 3421  EN 3(3,0)
Materials and Processes: PR: MAC 1104 and 1114 or equivalent; chemistry. Relation between structure and properties of metals, wood, ceramics and polymers. Testing and inspection, casting, forming and working of metals, heat treatment, and joining.

ETI 3440  EN 3(2,2)
Product Design: Principles of layout and dimensions for production. Consideration of design factors, standards, specifications and codes with emphasis on productivity.

ETI 3651C  EN 4(3,2)
Computer Applications: PR: COP 1200 or equivalent. Application of high level program packages to solution of problems in industrial practice. Includes CAD/CAM and spreadsheets.

ETI 3671  EN 2(2,0)

ETI 3690  EN 2(2,0)
Technical Sales: Application of technical knowledge in sales and service. Relationship of technical sales organization to production, customers, and competitors.

ETI 4110  EN 3(3,0)

ETI 4522C  EN 3(2,3)

ETI 4611  EN 2(2,2)

ETI 4650  EN 4(4,0)
Process Planning and Work Measurement: PR: MAC 1104. Scheduling Techniques (PERT), (CEM) are presented. Time Study Methods, Work Sampling and MTM are Covered.

ETI 4700  EN 2(2,0)
Occupational Safety: Accident prevention and the operation of an industrial safety program. Basic requirements of the Occupational Safety and Health Act standards.

ETM 3314  EN 3(3,0)
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.

ETM 4220  EN 2(2,0)

ETM 4310  EN 4(4,0)
Applied Thermodynamics and Fluid Mechanisms: PR: MAC 3253 or equivalent; Chemistry; College Physics. Introduction to energy, work and thermal systems and processes. Flow through pipes, orifices and nozzles.

ETM 4403C  EN 3(2,2)

ETM 4512C  EN 3(2,2)

ETM 4590  EN 2(2,0)
Design Integration: PR: ETG 3510 and ETM 4403C. Project design involving planning, control, prototype construction, testing and evaluation.

ETM 4750  EN 3(3,0)

EUH 2000  AS 3(3,0)
Western Civilization I: A survey of western civilization from ancient to 1648.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUH 2001</td>
<td>Western Civilization II: A survey of western civilization from 1648 to present. May be taken before EUH 2000.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 3121</td>
<td>Age of Transition: PR: EUH 2000 and 2001 or C.I. A survey of social, economic, political, religious, and cultural developments in Europe from the fall of Rome to the 10th century.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 3122</td>
<td>Medieval Society and Civilization: PR: EUH 2000 and 2001 or C.I.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 3142</td>
<td>Renaissance and Reformation: PR: EUH 2000 and 2001 or C.I. The influence of Renaissance humanism on arts, letters and politics; Luther and Protestantism; the Catholic Counter-Reformation and the Thirty Years' War.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 3235</td>
<td>Romanticism and Realism: PR: EUH 2000 and 2001 or C.I. Napoleon and nationalism; new ideas; conservation; liberalism, romanticism, republicanism and socialism; urbanization, technology and mass culture, religious decline; Realpolitik, racism, imperialism and militarism.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 3242</td>
<td>The Emergence of Modern Society, 1870-1930: PR: EUH 2000 and 2001 or C.I. Europe in the era of modern technology, militarism, the First World War, Paris Peace Conference, popular culture, and new democratic institutions east of the Rhine.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 3281</td>
<td>Second World War and Rebirth of Europe: PR: EUH 2000 and 2001 or C.I. Origins of World War II; Hitler's &quot;New Order,&quot; and resistance movements; Cold War; de-Stalinization of Russia; Sovietization of East Central Europe; Western reconstruction, and prosperity.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 3401</td>
<td>Ancient Greece: PR: EUH 2000 and 2001 or C.I. Greek foundations of Western Civilization from Minoans and Mycenaeanans to the Age of Alexander. Emphasis on achievements of Classical Age.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 3411</td>
<td>Ancient Rome: PR: EUH 2000 and 2001 or C.I. Romans and their contributions to Western Civilization. Covers traditions of Roman Republic, Carthaginian Wars, Imperial Period.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 3651</td>
<td>War and Society: Evolution of weapons, tactics, strategy; role, social status, recruitment of soldiers; influence of military on governments; and international efforts to preserve peace.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4284</td>
<td>Fascism and the Totalitarian Dictatorships: PR: EUH 2000 and 2001 or C.I. Totalitarian ideologies, institutions, and practices in Lenin's and Stalin's Russia. Mussolini's Italy, and Hitler's Third Reich; fascist movements in the non-totalitarian states.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4456</td>
<td>France, 1914-Present: PR: EUH 2000 and 2001 or C.I. World War and aftermath; Locarno spirit; rise of Fascism and French response, World War II; Fourth Republic and Reconstruction; deGaulle and the Fifth Republic.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4461</td>
<td>Rise of Modern Germany: PR: EUH 2000 and 2001 or C.I. Central Europe from the Reformation to 1890; Thirty Years' War; Austro-Prussian rivalry; German Enlightenment, Bismarck, and Second Reich.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>EUH 4466</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 4500</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 4501</td>
<td>English History: 1485-1615: 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>
</tr>
<tr>
<td>EUH 4530</td>
<td>British Empire and Commonwealth: PR: EUH 2000 and 2001 or C.I.</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. Kievans; 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 4574</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 4576</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>
</tbody>
</table>
EUH 4620 European Great Powers: 1815-1914: PR: EUH 2000 and 2001 or C.I. Congress of Vienna, Metternich’s system Crimean War, unifications of Italy & Germany, the Bismarckian era, the alliance systems, and the outbreak of World War I.


EUH 5237 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.

EUH 5238 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.

EUH 5240 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.

EUH 5285 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.

EUH 5371 Colloquium in Spanish History: PR: Senior standing and C.I. Readings and discussions of important events in the history of Spain.

EUH 5517 Colloquium in Tudor-Stuart England: PR: Senior standing or C.I. Intensive reading and class discussion on selected topics during the Tudor-Stuart era.

EUH 5527 Colloquium in 18th Century England: PR: Senior standing or C.I. An examination of the literature of selected topics in Hanoverian Britain.

EUH 5579 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.

EUH 5595 Colloquium in Czarist Russia: PR: Senior standing or graduate status. Selected topics on the literature of Russia under the Czars prior to 1917.

EUH 5602 Colloquium European Intellectual History: PR: Senior standing or C.I. Reading and class discussion of the literature on selected topics of European intellectual history.

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 4362 Air Pollution Control: Fundamental techniques applicable to analyzing composition and sources of pollutants, measuring concentrations, and controlling emissions. Air pollution control programs, laws, rules, and regulations.

EVT 3362 Professional Role of the Vocational Teacher: PR: EVT 3371 or C.I.

EVT 3311 Preparation for Clinical Teaching in Vocational Education: PR: EVT 3371 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 competency 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.

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.

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.

Applied Clinical Teaching Techniques in Vocational Education: PR: Regular Certificate or C.I. Study and practice of clinical teaching methods, development of student performance assessment instruments, planning clinical learning experiences and record keeping.

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.

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.

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.

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.

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.


Basic Learning Processes: PR: PSY 2013 and PSY 3214. Theories and research findings from basic laboratory investigation of learning phenomena. Lecture/Lab.


Sensation & Perception PR: C.I. A study involving the human information processing with regard to physical and psychological variables in sensory and perceptual phenomena.

Human Performance: PR: C.I. Human performance dimensions and concepts of assessment of human capabilities; performance acquisition, information processing and decision making; applications of principles to understanding of stress and performance effectiveness.

Human Factors I: Survey of human factors literature. Introduction to topics including human capabilities and human interfaces with human-machine systems.

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.

Human Learning and Memory: PR: C.I. A study to provide students with an understanding of the basic principles of human learning and memory.

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>PRs</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIL 3100</td>
<td>Film and Television Writing</td>
<td>Must pass Department of Communication English Proficiency Test and must have typing skills. Students will concentrate on writing screenplays for film and television as well as learn how to market their ideas to potential producers.</td>
</tr>
<tr>
<td>FIL 3200</td>
<td>Film Production</td>
<td>Pre-production planning, shooting, and editing of film.</td>
</tr>
<tr>
<td>FIL 3300</td>
<td>Film Documentary</td>
<td>The uses and analysis of the non-fiction film.</td>
</tr>
<tr>
<td>FIL 4201</td>
<td>Film Production II</td>
<td>Advanced pre- and post-production techniques including sound mixing and dubbing.</td>
</tr>
<tr>
<td>FIL 4208</td>
<td>Film Directing</td>
<td>PR: FIL 4201. Principles and practice in directing the production of motion pictures for the mass media.</td>
</tr>
<tr>
<td>FIN 3100</td>
<td>Personal Finance and Investments</td>
<td>PR: Junior standing. Fundamentals of managing and investing one's money and acquiring, safeguarding and disposing of one's assets. Not usable for credit by Finance majors.</td>
</tr>
<tr>
<td>FIN 3303</td>
<td>Financial Institutions</td>
<td>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.</td>
</tr>
<tr>
<td>FIN 3324</td>
<td>Commercial Bank Administration</td>
<td>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.</td>
</tr>
<tr>
<td>FIN 3403</td>
<td>Business Finance</td>
<td>PR: ACG 2011 or ACG 3023 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.</td>
</tr>
<tr>
<td>FIN 3453</td>
<td>Financial Models</td>
<td>PR: FIN 3403, ECO 3411. Mathematical models applied specifically to financial problems, including those models suitable for representation and solution on computers.</td>
</tr>
<tr>
<td>FIN 3502</td>
<td>Investments</td>
<td>PR: FIN 3403. A survey of the investments area including an introduction to security markets, investment vehicles, the investment environment, economic and security analysis, and portfolio management.</td>
</tr>
<tr>
<td>FIN 4126</td>
<td>Seminar in Financial Services</td>
<td>PR: FIN 3502, TAX 3000, RMI 3011, and FIN 4127. This course is designed to study current issues in financial planning in case analysis and discussion.</td>
</tr>
<tr>
<td>FIN 4127</td>
<td>Employee Benefits and Retirement Planning</td>
<td>PR: FIN 3403 and RMI 3011. This course considers the process of establishing specific financial objectives at various stages of life and how those objectives can be reached.</td>
</tr>
<tr>
<td>FIN 4430</td>
<td>Asset Selection Management</td>
<td>PR: FIN 3403. Decisions related to use of funds for working capital and fixed assets.</td>
</tr>
<tr>
<td>FIN 4431</td>
<td>Financial Structure Management</td>
<td>PR: FIN 3403. Funding decisions and the effects of these decisions on the value of the firm.</td>
</tr>
<tr>
<td>FIN 4520</td>
<td>Security Analysis and Portfolio Management</td>
<td>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.</td>
</tr>
<tr>
<td>FIN 5405</td>
<td>Financial Concepts</td>
<td>PR: Acceptance into the graduate program, ACG 5005 and ECO 5005 and ECO 5415 or equivalents. Effects of financial decisions upon the firm, interrelationships of these effects and alternatives available to financial managers in making these financial decisions.</td>
</tr>
<tr>
<td>FLE 3063</td>
<td>Foreign Language as Human Behavior</td>
<td>PR: Or CR: LIN 3010 or C.I. Nature of language, language learning and teaching basic skills. Weekly laboratory.</td>
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<tr>
<td>Course Code</td>
<td>Title</td>
<td>Description</td>
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<tr>
<td>FRE 1005</td>
<td>French Diction</td>
<td>This course is especially designed for music and voice students with an emphasis on musical terms, French songs and opera libretti.</td>
</tr>
<tr>
<td>FRE 1120</td>
<td>Elementary French Language and Civilization I</td>
<td>Designed to initiate the student to the major language skills; listening, speaking, reading and writing.</td>
</tr>
<tr>
<td>FRE 1121</td>
<td>Elementary French Language and Civilization II</td>
<td>PR: FRE 1120 or equivalent. Continuation of FRE 1120.</td>
</tr>
<tr>
<td>FRE 1170</td>
<td>Elementary French Study Abroad</td>
<td>Elementary French language and civilization taught in the native environment.</td>
</tr>
<tr>
<td>FRE 2201</td>
<td>Intermediate French Language and Civilization II</td>
<td>PR: FRE 2200 or equivalent. Continuation of FRE 2200 with emphasis on French civilization.</td>
</tr>
<tr>
<td>FRE 2240</td>
<td>Intensive French Conversation</td>
<td>PR: One year of French or equivalent. Practical use of the language leading toward fluency and correctness in speaking.</td>
</tr>
<tr>
<td>FRE 3244</td>
<td>French Conversation</td>
<td>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.</td>
</tr>
<tr>
<td>FRE 3420</td>
<td>French Composition</td>
<td>PR: FRE 2201 or equivalent. Development of skills in composition. This course may be repeated for credit. When repeated, credit will apply to general electives only.</td>
</tr>
<tr>
<td>FRE 4421</td>
<td>Advanced French Conversation</td>
<td>PR: FRE 3244. Advanced conversation on directed topics from various disciplines. Literature, art, psychology, philosophy, music, business and the sciences.</td>
</tr>
<tr>
<td>FRE 4422</td>
<td>Advanced French Composition</td>
<td>PR: FRE 3420. Readings and written limitations of modern literary styles in the form of themes, sketches, poems and original stories.</td>
</tr>
<tr>
<td>FRE 4500</td>
<td>French Civilization and Culture</td>
<td>PR: FRE 3244 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.</td>
</tr>
<tr>
<td>FRE 4780</td>
<td>French Phonetics and Diction</td>
<td>PR: FRE 3244 or equivalent. French phonology with emphasis on phonetic groupings.</td>
</tr>
<tr>
<td>FRW 3100</td>
<td>Survey of French Literature I</td>
<td>PR: FRE 2201 or equivalent. Main literary currents and works from the Middle Ages through the eighteenth century.</td>
</tr>
<tr>
<td>FRW 3101</td>
<td>Survey of French Literature II</td>
<td>PR: FRE 2201 or equivalent. Main literary currents and works of the 19th and 20th centuries.</td>
</tr>
<tr>
<td>FRW 3370</td>
<td>Short Stories of 18th, 19th and 20th Centuries</td>
<td>PR: FRE 2201 or equivalent. Selected readings designed to increase reading speed and develop analytical abilities. Authors include: Voltaire, Maupassant, Flaubert, Camus and others.</td>
</tr>
<tr>
<td>FRW 4310</td>
<td>Seventeenth Century French Theatre</td>
<td>PR: FRW 3100. Corneille, Racine, and Moliere. A study of the lives and principal works of the authors.</td>
</tr>
</tbody>
</table>
FRW 4820 Stylistics: PR: FRE 3420 or equivalent. An intense study of textual criticism. An examination of the relationship between language and literature; explications and linguistic analysis of literary texts.
FSS 3202C Food Production Techniques: PR: HFT 1000. Basic principles of menu planning, food and beverage preparation and service. Laboratory work.
FSS 3120 Quantity Food Purchasing: PR: HFT 1000; FSS 2202C. The purchasing procedures, specifications and controls of food products in the hospitality industry.
FSS 3223 Quantity Food Management: PR: HFT 1000; FSS 2202C. Management of food production in institutions, quality control, recipe standardization, portion and cost control, menu planning.

GEA 3300 Geography of Middle America: Basic elements of physical, cultural, and economic geographies as they relate to the development of Middle America.
GEA 4206 Physical Geography of North America: Analysis of the North American landscape as affected by climate, vegetation, and geomorphology.
GEA 4410 Geography of South America: Analysis of the integrated physical, cultural and economic geographies of South America and interpretation of their impact on modern development of the area.
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.
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 1120 Elementary German Language and Civilization I: Designed to initiate the student to the major language skills: listening, speaking, reading, and writing.
GER 1121 Elementary German Language and Civilization II: PR: GER 1120 or equivalent. Continuation of GER 1120.
GER 2200 Intermediate German Language and Civilization I: PR: GER 1121 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 II: 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 19th Century Romanticism.

GEW 3101 Survey of German Literature II: PR: GER 2201 or equivalent. Main literary currents and works from 19th Century Realism to the present.

GEW 3370 Short Story: PR: GER 2201 or equivalent. German short prose works of the 19th and 20th centuries.

GLY 1030 Geology and its Applications: Geologic principles, applications and hazards including: gemstones, rock cycle, moving continents, mountain building, metal ores, fossil fuels, groundwater, sinkholes, beach erosion, landslides, earthquakes, "tidal" waves, volcanism.

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.

HBR 1120 Elementary Modern Hebrew Language and Culture I: Designed to initiate the student to the major language skills: listening, speaking, reading and writing, as well as to constitute an introduction to Israeli culture.

HBR 1121 Elementary Modern Hebrew Language and Culture II: PR: HBR 1120 or equivalent. Continuation of HBR 1120.

HBR 2200 Intermediate Modern Hebrew I: PR: HBR 1121 or equivalent. Designed to continue the study of Modern Hebrew: increase proficiency in conversation, reading and writing skills, and further expose students to Israeli culture.


HFT 1000 Introduction to the Hospitality and Tourism Industry: An orientation to the hotel, restaurant and travel industry, its history, structure and operating procedures.

HFT 2252 Rooms Division Management: PR: HFT 1000. Practices and systems utilized in the operational management of the front office, reservation and housekeeping in hotels/motels.

HFT 3313 Hospitality Property Management: PR: HFT 1000. Analysis of operational problems related to the physical plant and structure of enterprises in the hospitality industry.


HFT 4420 Managerial Accounting for the Hospitality Industry: PR: ACG 2001, ACG 2011 (or ACG 3023), HFT 3444. The financial management and accounting practices of the hospitality industry and their implications on managerial decision making.

HFT 4503 Hospitality and Tourism Marketing: PR: MAR 3023, HFT 1000. The application of marketing concepts to the Hospitality and Tourism Industry. Special emphasis on marketing planning and strategic marketing.

HFT 4700 Travel and Tourism Administration: PR: HFT 1000. Foreign and domestic tourism supply and demand, economic impacts, organization of tourism, social and cultural aspects.

HFT 4717 Tourism Planning and Development: PR: HFT 1000, HFT 4700. Analysis and review of physical, economic, social and environmental planning techniques used in tourism destination development.

HFT 4722 Travel Agency Management: PR: HFT 1000, HFT 4700. The trends operation management procedures and practices of travel agents. Emphasis on tools utilized in agency operations.

HFT 4753 Conference and Convention Planning: PR: HFT 1000, HFT 2252. Operational and marketing concepts in planning, developing and implementing conferences and conventions in hotels and convention centers.

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.

HLP 4460
Teaching Elementary School Health and Physical Education: PR: Admission to Phase II or C.I. Organization, practice, and conduct of health (including drug abuse) and physical education programs in the elementary school. Includes field experience.

HMW 3200
Readings in Modern Hebrew Literature: PR: 2 years of Hebrew or equivalent.

HSA 3122
U.S. Health Care Systems: PR: Major or minor in College of Health or C.I. A survey of the economic, social, and political aspects of the health care system in the United States.

HSA 3170
Health Care Finance: PR: MRE 3000. Budgeting: resources for funding current and long term assets; cost and cost behavior; prospective payment; DRGs as reimbursement base.

HSA 4120
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.

HSA 4121
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.

HSA 4180
Organization and Management for Health Agencies: PR: STA 2014 and Major or Minor in College of Health or C.I. Organization and management of health agency organizations and management procedures.

HSA 5198
Information Systems and Computer Applications in Medicine: PR: Graduate standing or C.I. Overview of health information systems with an emphasis on computer applications. Discussion of software and hardware requirements.

HSC 3000
Introduction to the Allied Health Professions: A survey of allied health professions with regard to duties, responsibilities, education and training, ethics, and relationships with other health professionals.

HSC 3110C
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 3531
Medical Terminology: A study of the language of medicine and allied health specialties, including work construction, definitions and application of terms.

HSC 3600
Health Law: Principles of law as applied to the health field with special reference to health practices.

HSC 4243
Analysis of Instruction in Health Professions: Development of teaching aids, audiovisuals, learning packets. Course development, questioning strategies, evaluation of didactic and clinical performance.

HSC 4244
Curriculum Planning in the Health Professions: Curriculum design and approval process for Health Science program. Curriculum design for professional, patient and consumer education.

HSC 4550

HSC 4564
Health Care Needs of the Elderly: Overview of the physical and emotional needs of the elderly including the institutional health care available.

HSC 4651
Health Care Ethics: A study of ethical issues in health care including Life saving measures, rights to die, transplants, surrogate parenthood, privacy and confidentiality, and decision making.

HUM 2211
Western Humanities I: Examples of the philosophy, religion, literature, music, and visual arts, from Ancient Greece through the Middle Ages; ideas that shaped our world.

HUM 2230
Western Humanities II: Continuation of HUM 2211, from the Renaissance through the Modern World.

HUM 3431
The Ancient 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 Ancient 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.
The Classical Ideal in the Arts: PR: HUM 2211 and HUM 2230 or C.I. The search for order and form in the arts of various times and cultures. Concerns reason, structure, objectivity, harmony. Open to all upperclassmen.

The Romantic Ideal in the Arts: PR: HUM 2211 and HUM 2230 or C.I. 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.

The Spiritual Ideal in the Arts: PR: HUM 2211 and HUM 2230 or C.I. 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.

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.

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.


Organizational Psychology: PR: INP 3004. Analysis of the psychological principles underlying individual and group behavior in organizational setting. Topics include group dynamics, leadership and participation, intergroup behavior and organization development.

International Relations-Theory and Practice: Analysis of the fundamental principles and factors affecting interstate relations and their application to contemporary global developments.

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.

American Foreign Policy: Development of American foreign policy with emphasis on the role and policies of the United States in the contemporary world.

American Defense Policy: Study of the evolution of American defense policy since World War II including consideration of the social and political costs involved and means of control.

Strategic Weapons and Arms Control: Control of strategic weapons and their impact. Technological and policy aspects including nuclear proliferation.

Contemporary International Politics of Asia: Examinations of the foreign policies of major and secondary powers in Asia, with particular attention to China and Japan.

International Politics of Latin America: Study of contemporary U.S.-Latin America relations, inter-American politics and organization, and the role of Latin America in the world.

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.

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 liberations and coups.

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.

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.

International Organizations: The study of the structure and workings of international organizations of cooperation including the UN, its affiliates, and various regional organizations.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISM 4090</td>
<td>Seminar in Management Information Systems: PR: ISM 4113</td>
<td>Course designed to help students understand new developments in Management Information Systems in a business environment.</td>
</tr>
<tr>
<td>ISM 4113</td>
<td>Information Systems Analysis and Design: PR: ISM 4212.</td>
<td>Introduction to the fundamentals of management information systems development, needs analysis and systems requirements.</td>
</tr>
<tr>
<td>ISM 4130</td>
<td>Implementing Information Systems: PR: ISM 4113.</td>
<td>Study of organizational information needs and systems for planning and control.</td>
</tr>
<tr>
<td>ISM 4212</td>
<td>Data Base Management Systems: PR: Junior Standing, ISM 3011.</td>
<td>Course designed to help student understand how to build, manipulate, and manage files and data bases in a business environment.</td>
</tr>
<tr>
<td>ISM 5021</td>
<td>Introduction to Management Information Systems: PR: Acceptance</td>
<td>Designed to provide the student with the fundamentals of business data processing and management information systems used by organizations in a modern society.</td>
</tr>
<tr>
<td>ISS 4155</td>
<td>Science Fiction and the Social Sciences: A multi-media examination</td>
<td>A multi-media examination of note-worthy science fiction from the Social Science perspective.</td>
</tr>
<tr>
<td>ITA 1005</td>
<td>Italian Diction:</td>
<td>This course is especially designed for music and voice students with an emphasis on musical terms, Italian songs and opera libretti.</td>
</tr>
<tr>
<td>ITA 1120</td>
<td>Elementary Italian Language and Civilization I: Designed</td>
<td>Designed to initiate the student to the major language skills: listening, speaking, reading, and writing, in addition to an introduction to Italian culture.</td>
</tr>
<tr>
<td>ITA 1121</td>
<td>Elementary Italian Language and Civilization II: PR: ITA 1120 or</td>
<td>Continuation of ITA 1120.</td>
</tr>
<tr>
<td>ITA 1170</td>
<td>Elementary Italian Study Abroad: Elementary Italian language and</td>
<td>Language and civilization taught in the native environment.</td>
</tr>
<tr>
<td>ITA 2200</td>
<td>Intermediate Italian Language and Civilization I: PR: ITA 1121 or</td>
<td>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.</td>
</tr>
<tr>
<td>ITA 2201</td>
<td>Intermediate Italian Language and Civilization II: PR: ITA 2200 or</td>
<td>Designed to continue development of language skills at intermediate level, plus a review of grammar and study of syntax with emphasis on Italian civilization.</td>
</tr>
<tr>
<td>ITA 2210</td>
<td>Intensive Italian Conversation: PR: One year of Italian or</td>
<td>Practical use of the language leading toward fluency and correctness in speaking.</td>
</tr>
<tr>
<td>ITA 2270</td>
<td>Intermediate Italian Study Abroad: PR: Elementary Italian.</td>
<td>Intermediate Italian language and civilization taught in the native environment.</td>
</tr>
<tr>
<td>ITA 3240</td>
<td>Italian Conversation: PR: ITA 2201 or equivalent.</td>
<td>Development of skills in conversation and comprehension with an introduction to Italian culture.</td>
</tr>
<tr>
<td>ITA 3420</td>
<td>Italian Composition: PR: ITA 2201 or equivalent.</td>
<td>Development of skills in composition with an introduction to Italian culture.</td>
</tr>
<tr>
<td>JOU 3004</td>
<td>History of American Journalism: Development of mass media, leading</td>
<td>Development of mass media, leading innovators and the media's role in the nation's history.</td>
</tr>
<tr>
<td>JOU 3100</td>
<td>News Reporting: PR: English grammar examination and ability to type</td>
<td>English grammar examination and ability to type 30 wpm. Development of skills in news gathering and writing for the mass media. Students must have minimum ability to type and pass the department language proficiency exam.</td>
</tr>
<tr>
<td>JOU 3200</td>
<td>News Editing: PR: English grammar examination; minimum grade of C</td>
<td>English grammar 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.</td>
</tr>
<tr>
<td>JOU 4300</td>
<td>Feature Writing: PR: English grammar examination and a minimum</td>
<td>Feature Writing: PR: English grammar examination and a minimum grade of C in JOU 3100 and ability to type 30 wpm. Writing of feature articles for newspapers and magazines.</td>
</tr>
</tbody>
</table>

BA 3(3,0)

As 3(3,0)

BS 3(3,0)
JOU 4302
Editorial and Column Writing: PR: English grammar examination and a minimum grade of C in JOU 3100 and ability to type 30 wpm. Building the editorial page, backgrounding and interpreting the news.
JOU 4306
Critical Writing: PR: English grammar examination and a minimum grade of C in Jou 3100 and ability to type 30 wpm. Writing reviews of movies, plays, television program, concert, books and other cultural works.
JOU 4310
Freelance Writing: PR: English grammar examination, evidence of satisfactory writing skills, and ability to type 30 wpm. A study of the techniques and procedures of freelance writing, including the preparation of several manuscripts.
JST 3100
JST 3401
The Jewish People I: Introduction survey of the history and culture of the Jewish people from the beginnings of Judaism in the biblical era, through the Graeco-Roman and rabbinic periods.
JST 3402
The Jewish People II: The life and history of the Jews in the medieval and modern worlds.
JST 3550
Introduction of Modernism into Judaism: The transition from traditional Judaism to modern Judaism in the 18th century as epitomized by Moses Mendelssohn and writers of the Jewish Enlightenment (in translation).
JST 3751
Literature of the Holocaust: A study of the traumatic experience of the Holocaust in Europe as expressed and depicted in contemporary Jewish and Hebrew Literature.
JST 3810
The Jewish National Movement and Roots of Zionism: Roots of Zionism and Jewish nationalism and their relationship to modern anti-semitism, through analysis of European Jewish history and society.
JST 3820
Modern Hebrew Culture: The Development of the State of Israel: Political and ideological struggle for the establishment of the State of Israel, with emphasis on forces which shaped contemporary Israeli society and politics.
LAE 3335
English Instructional Analysis: ED 4(3,2)
Course objectives for a school curriculum and methods and materials which have special application for teaching English.
LAE 3414
Literature for Children: PR: Phase I or C.I. General survey of books and materials; criteria for analysis and evaluation; types of books available considered in terms of interests, needs, and abilities of children.
LAE 4314
Language Arts in the Elementary School: PR: Phase I or C.I. Content, principles, materials and techniques involved in teaching, speaking, listening, writing, and spelling in the elementary school; organizing for instruction.
LAE 4342
Teaching Language and Composition: PR: EDG 4321. Techniques and methods in teaching of dialects, semantics, the various grammars. A survey of composition and rhetorical methods of selected authors.
LAE 5367
English Composition and Literature for Teachers of Advanced Placement:
LAE 5372
Theory and Practice in Composition: PR: Senior standing or C.I. Intensive study of theories of composition, with practical experience in the writing laboratory and in composition classes.
LAE 5464
Literature for Adolescents: PR: Senior standing or C.I. Selecting and evaluating books for adolescents with emphasis on the use of literature in the development of young people.
LAH 3130
LAH 3200
LAH 3400
History of Mexico and Central America: PR: EUH 2000 and 2001 or C.I. A survey of Mexican and Central American history from Pre-Columbian times to the present.
LAH 3470
History of the Caribbean: PR: EUH 2000 and 2001 or C.I. History of Cuba, Puerto Rico, Dominican Republic and Haiti from Pre-Columbian times to the present.
LAH 5713
Colloquium in U.S.-Latin American Relations: PR: Senior Standing and C.I. The course will analyze U.S.-Latin American relations from an historical perspective. It will be presented through readings and discussion of selected materials.
LAT 1120 Elementary Latin Languages and Civilization I: Designed to develop Latin language skills at the elementary level: listening, speaking, reading, and writing, in addition to an introduction to Roman culture.

LAT 1121 Elementary Latin Language and Civilization II: PR: LAT 1120 or equivalent. Continuation of LAT 1120.

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.

LEA 3011 Legal Research: PR: LEA 3001 or C.I. A study of the various research tools used in legal investigation and the methods used to conduct legal research.

LEA 3012 Legal Writing: PR: LEA 3011 A study of legal writing format and technique and the preparation of memoranda and other legal documents, using research skills learned in LEA 3011.

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.

LEA 3151 The Law of 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.

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.

LEA 3601 Criminal Procedure: PR: LEA 3001 or CCJ 3020 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.

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.

LEA 4204 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 4207 Landlord and Tenant Law: PR: LEA 3201, LEA 3001. Study of the basic law regarding landlord and tenant relationship, both commercial and residential as it applies to the practitioner.

LEA 4211 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 4212 Estate Administration: PR: LEA 4211. Study of the laws and procedures applicable to administration of estates.

LEA 4301 The Law of Contracts: Study of the basic law of contracts as developed in Anglo-American law and as changed by modern statutes, including the Uniform Commercial Code. Florida contract law will be emphasized.

LEA 4312 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 4402 Law Office Practices: PR: LEA 3001. Organization, operation and management of law office. Interviewing techniques and practical application of work that is done in a law office.

LEA 4501 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 4505 Juvenile Law and Procedure: PR: LEA 3001 or C.I. Examines both the substantive and procedural law for juvenile delinquency and dependency. Emphasis on Florida law and comparison with other jurisdictions.

LEA 4801 Administrative Law: PR: LEA 3001 or PAD 3003. The law regarding governmental agencies with emphasis on the administrative process, Administrative Procedure Acts and special problems of state administrative law.

eliciting language samples,

Sounds and sentence and discourse structure. Syntax of
disciplines society.

Language and Meaning: LIN 4801 AS 3(3,0)

Normal language, comparison of

Linguistics and Literature: LIN 4660 AS 3(3,0)


LEI 3310 ED 3(3,0)

Recreation Leadership: A study of the various styles of leadership as they relate to directing people and programs in public and private recreation.

LEI 3434 ED 2(1,1)

Recreation and Intramurals: Principles and techniques of general and school recreation programs.

LEI 3437 ED 3(3,0)

Administration and Supervision of Recreational Programs: Includes methods, principles and policies of administering recreational programs under varying conditions and to varying populations. Strategies for supervising personnel are included.

LEI 3601 ED 3(3,0)

Recreational Planning for Facilities and Equipment: Planning for facilities and equipment will be analyzed including site selection, construction, purchasing and maintenance. Multi-cultural considerations will be examined and the needs of special populations will be taken into account.

LEI 3700 ED 3(3,0)

Recreational Programming for Special Populations: Includes a study of recreational programming for special populations including the extreme age groups and the handicapped. Multi-cultural implications will also be considered.

LIN 2340 AS 3(3,0)

Grammar Review: A systematic review of basic English grammar to improve clarity and accuracy in writing.

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)


LIN 3710 HLTH 3(3,0)

Foundations of Language: This course is designed to explore contributions to language from disciplines of Biology, Neurology, Psychology and Sociology.

LIN 3710L HLTH 1(0,2)

Foundations of Language: Students will have practical experience in analyzing children's language samples.

LIN 4100 AS 3(3,0)


LIN 4202 AS 3(3,0)

Phonetics: PR: ENC 1102. Study of the sounds of language from an articulatory perspective.

LIN 4341 AS 3(3,0)

Modern English Grammar: PR: ENC 1102 and Sophomore standing. Emphasis upon the analysis and comparison of traditional, structural and transformational grammar.

LIN 4440 AS 3(3,0)

Sounds and Forms of Language: This course examines the sound systems (phonology) and word structure (morphology) of natural languages as two basic areas of linguistics.

LIN 4612 AS 3(3,0)


LIN 4660 AS 3(3,0)

Linguistics and Literature: PR: LIN 3010. Investigation of language study as an aid to understanding literature. Topics include analysis of figurative language, language as characterization, cohesion, sentence and discourse structure.

LIN 4712 HLTH 3(3,0)

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 AS 3(3,0)

Language and Meaning: PR: ENC 1102 and Sophomore standing. 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.
LIT 5137
Linguistics: PR: Senior or graduate standing or C.I. Modern linguistic theories and studies focusing on language acquisition and development, contemporary American English, semantics and para-linguistics.

LIN 5705

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. Emphasizes 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 4428

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 4510

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.

LIT 2110
World Literature I: PR: ENC 1102. Poetry, prose, and drama selected from ancient Hebrew, Greek, and Oriental literature and from that of Renaissance Europe.

LIT 3000
Introduction to Literary Analysis: PR: ENC 1102. 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
Literature of Modern Man: PR: ENC 1102. Reading and discussion of types and forms of modern literature.

LIT 3082
Continental European Fiction Since 1900: PR: ENC 1102. A selection of significant works of fiction written in various languages during the present century, read in translation.

LIT 3120
World Literature II: PR: ENC 1102. Readings from Moliere, Voltaire, Goethe, Pushkin, Balzac, Tolstoy, Ibsen, Mann, Kafka, Camus, and others.

LIT 3188
Canadian and Commonwealth Literature: Fiction, poetry, and drama written in English in Canada and other Commonwealth nations including Australia and Carribean and African nations with an English-speaking tradition.

LIT 3313
Science Fiction: PR: ENC 1102. An investigation of science fiction as a literary form, together with selected readings.
LIT 3383  AS 3(3,0)

LIT 4094  AS 3(3,0)
Modern Drama As Literature: A study of important plays, playwrights, themes, movements, and styles in modern American, British, and European drama.

LIT 4312  AS 3(3,0)
Fantasy: PR: ENC 1102. 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 4433  AS 3(3,0)
Survey of Technical and Scientific Literature: PR: ENC 4293 or C.I. An analysis of the historical development of technical and scientific writing from the Renaissance to the present.

LIT 5039  AS 3(3,0)
Studies in Contemporary Poetry: English language poetry from 1945 to the present. Emphasis will be on American poets, but others such as English or Australian will be included.

LIT 5097  AS 3(3,0)
Studies in Contemporary Fiction: PR: Senior standing or C.I. Fiction in the last 20 years in the United States and Britain.

LIT 5309  AS 3(3,0)
Media and Popular Literature: PR: Senior standing or C.I. Study of the literary content of contemporary media and of popular fiction. Application to classroom teaching.

LIT 5366  AS 3(3,0)
The Romantic Revolt (19th Century Literature): PR: Senior standing or C.I. The romantic revolt in poetry and prose; English, American and Continental literature. 1798-1832.

LIT 5367  AS 3(3,0)
The Victorian Age: PR: Senior standing or C.I. Study of poets and essayists from 1837 to 1900, including Tennyson, the Brownings, Arnold, Hopkins, Carlyle, Mill; emphasizing Dickens, George Eliot, the Brontes, and Hardy.

MAA 4226  AS 4(4,0)

MAA 4227  AS 3(3,0)
Advanced Calculus II: PR: MAA 4226 or C.I. Continuation of MAA 4226.

MAA 5210  AS 4(4,0)
Topics in Advanced Calculus: PR: MAC 3313 or C.I. Selected topics in multivariable calculus including limits, continuity, Euler’s theorem, the Jacobian, and double series; extension of single variable concepts including uniform convergence and improper integrals.

MAA 5405  AS 3(3,0)

MAC 1102  AS 3(3,0)
Basic College Algebra: Recommended background: two years of high school algebra. Techniques of algebra; linear and quadratic equations; systems of equations; inequalities; graphs and functions, including exponential and logarithmic; permutations and combinations; applications. Does not satisfy G.E.P.

MAC 1104  AS 3(3,0)
College Algebra: PR: Intermediate algebra or 2 years of high school algebra or C.I. Inequalities. Higher degree polynomials. Graphs, rational, logarithmic, and exponential functions. Systems of equations, matrices, determinants, induction. This course prepares students for higher-level mathematics courses.

MAC 1114  AS 3(3,0)
College Trigonometry: PR: MAC 1102 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.

MAC 3233  AS 3(3,0)
Concepts of Calculus: 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.

MAC 3253  AS 3(3,0)
Applied Calculus I: PR: MAC 1104 and MAC 1114 or C.I. Differential and integral calculus. An introduction to differential equations and Laplace Transforms. Applications to engineering technology. Not open to students with credit in MAC 3233 or MAC 3311.
MAC 3254 AS 3(3,0)
Applied Calculus II: PR: MAC 3253 or C.I. Continuation of MAC 3253.
MAC 3311 AS 4(4,0)
Calculus with Analytic Geometry I: 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.
MAC 3312 AS 4(4,0)
Calculus with Analytic Geometry II: PR: MAC 3311 or C.I. Continuation of MAC 3311.
MAC 3313 AS 4(4,0)
Calculus with Analytic Geometry III: PR: MAC 3312 or C.I. Continuation of MAC 3312.
MAD 4203 AS 4(4,0)
Combinatorics and Graph Theory: PR: MAC 3312 and STA 3023. Counting principles, inclusion/exclusion principle, recurrence relations, generating functions, properties of graphs and digraphs, trees, path problems, coloring planarity, connectiveness matchings and coverings, applications.
MAD 5205 AS 3(3,0)
MAE 1810 AS 3(3,1)
Mathematics for Elementary School Teachers I: PR: Two years of high school mathematics and C.I. Algorithms for arithmetic operations. Number systems. Geometry. Open only to majors in elementary education.
MAE 2811 AS 3(3,1)
Mathematics for Elementary School Teachers II: 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.
MAE 3112 ED 4(3,1)
Instruction of Mathematics in the Elementary School: PR: Associate of Arts degree or C.I. Concepts, learning sequences, algorithms, error pattern analysis, and problem solving techniques appropriate for the elementary school teacher.
MAE 3330 ED 4(3,2)
Mathematics Instructional Analysis: PR: EDG 4321. Study of course objectives for the high school curriculum and survey of methods and materials which have special application for teaching mathematics.
MAE 3817 ED 4(4,1)
Mathematics Topics for Elementary School Teachers: 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.
MAE 4326 ED 4(3,1)
How Children Learn Mathematics: PR: MAE 1810 and 2811, or MAE 3112; or C.I.; and admission to Phase II. Instructional strategies learning activities, the use of manipulatives, lesson planning, evaluation of mathematical learning, and diagnostic techniques.
MAE 5318 ED 3(3,0)
Current Methods in Elementary School Mathematics: PR: Regular Certificate or C.I. Strategies of instruction of computation and concepts of number, geometry, and measurement; instructional materials. (Meets Elementary Education certification requirements.)
MAE 5325 ED 3(3,0)
Teaching Mathematics in the Middle/Junior High School: PR: 12 s.h. of mathematics including at least College Algebra. Consideration of the curriculum and instructional techniques appropriate for students in Middle/Junior High School.
MAE 5336 ED 3(3,0)
Teaching General Mathematics in the Secondary School: PR: MAE 3330 or C.I. This course addresses specific techniques for developing General Mathematics skills and concepts beginning in grade 6. Problem solving, motivation and innovative methods are explored.
MAE 5395 ED 3(3,0)
Teaching Measurement in the Schools: Metric system, methods of developing different measurement skills and concepts, and curriculum changes needed to accommodate measurement.
MAE 5637 ED 3(2,1)
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.)
MAN 3025 BA 3(3,0)
Management of Organizations: PR: Junior standing, ACG 2011 or 3023, ECO 2023, ECO 2013. Introduction to the theory and practice of managing formal organizations including planning, organization theory, human behavior and control.
MAN 3301 Personnel Management: PR: Junior standing, MAN 3025 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 Business Concepts: PR: Junior standing. An introductory course in concepts, techniques, opportunities, decisions, and problems in American business. For non-business majors only.

MAN 4120 Business and Society: PR: MAR 3023, FIN 3403, MAN 3025. A study of the interrelationship between the institution of business and other institutions of our society.

MAN 4150 Human Relations in Management: PR: MAN 3025. The study of individual, interpersonal, group and intergroup problems in business organizations through the use of cases and experimental exercises.


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.

MAN 4350 Training and Development: PR: MAN 3301. This course focuses on training and development activities as performed as organizational specialists. Theory, issues, practices and problems are discussed.

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 4521 Production Planning and Control: PR: MAN 3504. In depth study of long range, intermediate range and short range planning and control methods as applied to a manufacturing organization.

MAN 4590 Procurement Management: PR: MAN 3025 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 4600 International Management: PR: GEB 4351. The course examines issues involved in multinational management of business firms with special emphasis on comparative management.

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 4854 Management Science: PR: MAN 3025 and MAN 3504 and ECO 3411 and CGS 3000. Study of the application of quantitative models and use of simulation in 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 5415 or equivalent. Introduction to the fundamental concepts, processes and institutions involved in the production of goods and services required by modern society.


MAP 3401 Problem Analysis: PR: MAC 3253 and COP 1200 or equivalent. Applications of computational techniques to selected problems in the practice of engineering technology. Problems relating to specific option areas.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>MAP 4153</td>
<td>Vector and Tensor Analysis</td>
<td>PR: MAC 3313 or C.I. Vector calculus. The theorems of Green, Gauss and Stokes. Introduction to tensors. Application in engineering and physical sciences.</td>
</tr>
<tr>
<td>MAP 4364</td>
<td>Applied Boundary Value Problems II</td>
<td>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.</td>
</tr>
<tr>
<td>MAP 4411</td>
<td>Laplace Transforms</td>
<td>PR: MAP 3302 or C.I. Laplace and Z transforms; solutions of ordinary and partial differential equations; application to circuit analysis and difference equations.</td>
</tr>
<tr>
<td>MAP 5407</td>
<td>Applied Mathematics I</td>
<td>PR: MAP 3302 or C.I. Fourier series, calculus of variations, Hamilton’s principle, eigenvalues and stationary points, Rayleigh-Ritz method, partial differential equations, and approximation methods.</td>
</tr>
<tr>
<td>MAP 5426</td>
<td>Special Functions</td>
<td>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.</td>
</tr>
<tr>
<td>MAR 3023</td>
<td>Marketing</td>
<td>PR: Junior standing. Study of functions, institutions and basic problems in marketing of goods and services in our domestic economy and abroad.</td>
</tr>
<tr>
<td>MAR 3303</td>
<td>Advertising Management</td>
<td>PR: MAR 3023. Analysis of field of advertising; techniques, media, organization, and role of research; economic and social aspects of advertising.</td>
</tr>
<tr>
<td>MAR 3403</td>
<td>Sales Management</td>
<td>PR: MAR 3023. An overview of the sales management process. Emphasis on sales program formulation and implementation.</td>
</tr>
<tr>
<td>MAR 3503</td>
<td>Consumer Behavior</td>
<td>PR: MAR 3023. Analysis of the buying process, the psychological, social, and economic influences affecting consumer choice.</td>
</tr>
<tr>
<td>MAR 3613</td>
<td>Marketing Research</td>
<td>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.</td>
</tr>
<tr>
<td>MAR 3722</td>
<td>Marketing Management</td>
<td>PR: MAR 3023 and any one additional MAR course or C.I. Operational framework exploring the analysis, planning and control activities of marketing.</td>
</tr>
<tr>
<td>MAR 4123</td>
<td>Product Management</td>
<td>PR: MAR 3023. Components of product management including analysis, strategy formulation and implementation are examined.</td>
</tr>
<tr>
<td>MAR 4153</td>
<td>Retailing Management</td>
<td>PR: MAR 3023. Analysis of the field of retailing. Emphasis on planning for profit through management, inventory control, etc.</td>
</tr>
<tr>
<td>MAR 4203</td>
<td>Marketing Channel Systems</td>
<td>PR: MAR 3023. Marketing functions and relationships within marketing channel systems, primary focus on the needs for interorganizational cooperation and coordination between channel organizations.</td>
</tr>
<tr>
<td>MAR 4243</td>
<td>International Marketing</td>
<td>PR: MAR 3023, GEB 4351, or C.I. Investigates strategy, policy and the variables in international marketing decisions.</td>
</tr>
<tr>
<td>MAR 4453</td>
<td>Industrial Marketing</td>
<td>PR: MAR 3023. Marketing of goods and services between organizations, including commercial, governmental, institutional, and not-for-profit. Emphasis on the development, pricing, promotion and distribution of industrial products.</td>
</tr>
<tr>
<td>MAR 4703</td>
<td>Contemporary Marketing Issues</td>
<td>PR: Senior standing, marketing major, C.I. Cultural, social, political, economic, and competitive developments and their effects upon marketing activities.</td>
</tr>
<tr>
<td>MAR 4713</td>
<td>Marketing Strategy</td>
<td>PR: Senior standing and marketing courses completed or C.I. Marketing problems are explored with emphasis on strategy formulation and integrative marketing decision making.</td>
</tr>
<tr>
<td>MAR 4941</td>
<td>Internship</td>
<td>PR: Permission of Dept. Chair. Provide qualified undergraduate marketing majors with educational experience not gained in class setting.</td>
</tr>
<tr>
<td>MAR 5055</td>
<td>Marketing Concepts</td>
<td>PR: Acceptance into the graduate program. Study of functions, institutions and basic marketing of goods in the U.S. economy.</td>
</tr>
</tbody>
</table>
Small Business Consulting: PR: ACG 2001, 2011, ECO 2023, 2013, MAN 3025, MAR 3023, or graduate status. Provides students opportunity to apply knowledge learned in classroom to real business situations. Open to undergraduate majors in the College of Business Administration with approval of the department chair.

MAS 3103
Linear Algebra: PR: MHF 2300 or C.I. A study of finite dimensional vector spaces and linear transformations.

MAS 3113

MAS 3203
Introduction to Number Theory: PR: MHF 2300 or C.I. The course will include the following topics: inductive reasoning, factorization, the division algorithm and congruences.

MAS 4301
Algebraic Structures: PR: MHF 2300 or C.I. An introduction to groups, rings and fields.

MCB 3013C
General Microbiology: PR: A college course in chemistry and in basic biological sciences. Fundamentals of microbiology, including microbial structure and function, metabolism, growth, genetics, virology environmental control, ecology, pathogenicity; and laboratory techniques.

MCB 3203
Pathogenic Microbiology: PR: MCB 3013C or C.I. Microorganisms producing disease in man and other animals; means of transmission; protection against disease.

MCB 3203L
Pathogenic Microbiology Lab: CR: MCB 3203. Laboratory investigation of pathogenic microorganisms with emphasis on isolation and identification of pathogenic microorganisms.

MCB 4114C

MCB 4404C
Microbial Metabolism: PR: MCB 3013C and BCH 4054. Interrelationship between cellular structure function and genetic traits in microorganisms. The interaction between microorganisms and their nutritional environment.

MCB 4603C
Environmental Microbiology: PR: PCB 3043 and MCB 3013C. Interrelationships between the biological activities of microorganisms and their terrestrial and aquatic environments.

MCB 5205
Infectious Process: PR: MCB 3013C or C.I. Discussion of current theories of the infectious process and the response of host cells and tissue to infection.

MCB 5505C

MET 3002
Fundamentals of Meteorology and Climatology: PR: MAC 1102 or C.I. Studies of the physical processes that determine the climate of a region. The methods of measurement and use of meteorological parameters.

MGF 1203
Finite Mathematics: PR: Intermediate algebra or 2 years of high school algebra or C.I. Introduction to logical structure, sets, probability, arrays, games. This course is intended for students who are not planning to take further courses in mathematics.

MIS 3104
Boolean Algebra: PR: MAC 3312 or C.I. Axiomatic development of Boolean algebra. The algebras of sets, logic and circuits as Boolean algebras.

MIS 1031
Basic Military Science: Organization of the Army and ROTC. Career opportunities, significance of military courtesy, discipline, customs, and traditions. Analysis of weapons, equipment and historical growth of the Army.

MIS 1400
Fundamentals of Leadership Development: 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.
Clinical Immunology: PR: Admission to the professional phase of the MLS program or C.I. Analysis of human urine and other body specimens, chemically and microscopically; interpretation of abnormal results and their correlation to disease included.

Clinical Immunohematology: PR: Admission to the professional phase of the MLS program or C I. Analysis of hemostasis mechanisms; diagnostic procedures and correlation of data to pathological conditions.

Clinical Pathogenic Microbiology: PR or CR: MCB 3203 and admission to the professional phase of the MLS program. Isolation and pathogenic bacteria and serological methods; interpretation of abnormal results, with correlation to disease.

Clinical Parasitology: PR: Admission to the professional phase of the MLS program or C.I. Instruction and laboratory practice in the isolation and identification of fungi associated with mycotic infections of man.

Clinical Parasitology: 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.

Immunodiagnostics: PR: PCB 3233. Theory and application of clinical serologic and immunologic diagnostic testing stressing the utilization of monoclonal technology.

Clinical Immunohematology: PR: Admission to the professional phase of the MLS program or C.I. Investigation of incompatible crossmatches; antibody identification, leukocyte antigens and identification procedures, problem solving.

Advanced Clinical Chemistry I: PR: Admission to the professional phase of the MLS program or C.I. Theory and practice in clinical chemistry techniques; carbohydrates, protein, electrophoresis, enzymes.

Advanced Clinical Chemistry II: PR: MLS 4625C. Autoanalyzer, flame photometry, blood gases, RIA.

Clinical Practice I: 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.

Clinical Practice II: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4830C.

Clinical Practice III: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4831C.

Clinical Practice IV: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4832C.

Clinical Practice V: PR: Admission to the professional phase of the MLS program or C.I. Continuation of MLS 4833C.
Fundamentals of Research for Health Science Professionals: Concepts of developing a research protocol based on current theories and practices within the clinical area including literature search, cost analysis and grant preparation.

Clinical Immunology: PR: PCB 3233, MLS 4511 or C.I. Advanced theory and application of immunologic diagnostic testing stressing the utilization of monoclonal technology.

MRE 2000

Introduction to the Mass Media: A description of the various media, their roles, responsibilities, and functions.

Mass Communication Law: The legal rights and responsibilities of the mass media.

Contemporary Media Issues: 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.

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.

MRE 3000

Introduction to Medical Records: PR: Acceptance into upper division limited access MRA program. Introduction to profession; POMR; release of information; record analysis.

MRE 3110

Medical Record Organization and Management: PR: MRE 3000. Nomenclature/classification systems; health/vital statistics; computer abstracting; MRAs role in hospital/medical staff organization; accrediting/approving agencies; indexing.


MRE 3800

Directed Practice I: PR: Acceptance into upper division limited access MRA program. Interdepartmental experience and introduction to medical record departments in selected health care facilities.

MRE 3810

Directed Practice II: PR: MRE 3800, HSC 3940, HSC 3531. Quantitative and qualitative analysis; MPI; release of information; filing; admission/discharge processing performed in a health care facility.

Coding Procedures: PR: MRE 3432, HSC 3531, or C.I. Principles and mechanics of coding systems for health information retrieval, DRGs.

Coding Procedures II: PR: MRE 4202 or C.I. Continuation of MRE 4202; HCPCS-CPT.


Medical Record Department Management: PR: MRE 4500; MRE 4312. Analysis of management functions in health care setting; in-service education; equipment demonstrations; problem-solving techniques.

Analysis of Medical Record Department Operations: PR: MRE 3110; MAN 3025; MAN 3301. Personnel administration; budgeting; forms analysis, design, control; work distribution and simplification; evaluation techniques, policy/procedure manuals; job description. Principles of word processing and medical transcription.


Health Information Retrieval Systems: PR: MRE 3110. Utilization review; principles and mechanics of medical audit and quality assurance; risk management.

Directed Practice III: PR: MRE 3110; MRE 4202; MRE 3810. Incomplete record control; coding; health/vital statistics; microfilm.
MRE 4832
Directed Practice IV: PR: MRE 3110; MRE 4312; MRE 4500; MRE 4830. Indexing, abstracting; audit; quality assurance; U.R.; transcription; budget; management of activities in DP I, II, III; computer applications. Assignment to hospital and other health care facilities.

MRE 4835
Management Affiliation: PR: All other required courses. Assignment to a selected health care facility serving in an administrative capacity under the direction of a Registered Record Administrator; lab exercises; comprehensive exam.

MRE 4850
Medical Record Research: PR: MRE 4500, COM 3110. Basic research topic design; completion of research project; oral presentations, grantsmanship.

MRE 5217
System Analysis and Design: Concepts of system analysis, planning, and design; criteria for assisting health information needs; computer system selection; project management allocation and control.

MRE 5218
Management of Health Information Systems: PR: ISM 5021. Administration of computer-based information systems; security; policy formulation; health data in decision-making, interpretation of health data.

MRE 5219

MRE 5588
Research Methods: PR: HSC 6911; graduate status or C.I. Research topic design using health information; research methodologies using statistical techniques; research designs as they relate to health care organizations.

MTG 4212
Modern Geometries: PR: MAC 3311 or C.I. Sets of axioms and finite geometries, groups of transformations, Euclidean 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.

MTG 4302
Introduction to Topology: PR: MGF 2300 or C.I. Metric spaces, topological spaces, limit points, continuity, compactness, and connectedness.

MUC 1101
Composition I: Creative work in small forms. Open to qualified non-music majors with C.I. May be repeated for credit.

MUC 3202
Composition II: PR: C.I. or by audition. Creative work in large and small forms in the area of choral, instrumental and keyboard media. May be repeated for credit.

MUE 1440
String Techniques: Class instruction in beginning string playing techniques.

MUE 1450
Woodwind Techniques: Class instruction in beginning woodwind playing techniques. May be repeated for credit.

MUE 1450
Brass Techniques: Class instruction in beginning brass playing techniques. May be repeated for credit.

MUE 3210
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 4311
Elementary School Music Instructional Analysis: PR: Junior standing. Organization and administration of instruction for comprehensive music education, K-6; instructional planning, techniques, and materials for elementary music education.

MUE 4360
Secondary School Music Instructional Analysis: PR: MUE 4311 or C.I. Instructional planning, techniques and materials in middle school, junior high and senior high classrooms; consideration of general music education program; evaluation materials and procedures.

MUE 4480

MUE 5611
Trends in Elementary School Music Education: PR: MUE 3210 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.

MUG 3101
Basic Conducting: Fundamental techniques and practice in conducting.

HLTH 2(0,4)
Directed Practice IV: PR: MRE 3110; MRE 4312; MRE 4500; MRE 4830. Indexing, abstracting; audit; quality assurance; U.R.; transcription; budget; management of activities in DP I, II, III; computer applications. Assignment to hospital and other health care facilities.

HLTH 5(0,15)
Management Affiliation: PR: All other required courses. Assignment to a selected health care facility serving in an administrative capacity under the direction of a Registered Record Administrator; lab exercises; comprehensive exam.

HLTH 3(3,0)
Medical Record Research: PR: MRE 4500, COM 3110. Basic research topic design; completion of research project; oral presentations, grantsmanship.

HLTH 3(3,0)
System Analysis and Design: Concepts of system analysis, planning, and design; criteria for assisting health information needs; computer system selection; project management allocation and control.

HLTH 3(3,0)
Management of Health Information Systems: PR: ISM 5021. Administration of computer-based information systems; security; policy formulation; health data in decision-making, interpretation of health data.

HLTH 3(3,0)

HLTH 3(3,0)
Research Methods: PR: HSC 6911; graduate status or C.I. Research topic design using health information; research methodologies using statistical techniques; research designs as they relate to health care organizations.

HLTH 3(3,0)
Modern Geometries: PR: MAC 3311 or C.I. Sets of axioms and finite geometries, groups of transformations, Euclidean 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.

HLTH 3(3,0)
Introduction to Topology: PR: MGF 2300 or C.I. Metric spaces, topological spaces, limit points, continuity, compactness, and connectedness.

HLTH 3(3,0)
Composition I: Creative work in small forms. Open to qualified non-music majors with C.I. May be repeated for credit.

HLTH 3(3,0)
Composition II: PR: C.I. or by audition. Creative work in large and small forms in the area of choral, instrumental and keyboard media. May be repeated for credit.

HLTH 3(3,0)
String Techniques: Class instruction in beginning string playing techniques.

HLTH 3(3,0)
Woodwind Techniques: Class instruction in beginning woodwind playing techniques. May be repeated for credit.

HLTH 3(3,0)
Brass Techniques: Class instruction in beginning brass playing techniques. May be repeated for credit.

HLTH 3(3,0)
Percussion Techniques: Class instruction in beginning percussion playing techniques.

HLTH 3(3,0)
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.

HLTH 3(3,0)
Elementary School Music Instructional Analysis: PR: Junior standing. Organization and administration of instruction for comprehensive music education, K-6; instructional planning, techniques, and materials for elementary music education.

HLTH 3(3,0)
Secondary School Music Instructional Analysis: PR: MUE 4311 or C.I. Instructional planning, techniques and materials in middle school, junior high and senior high classrooms; consideration of general music education program; evaluation materials and procedures.

HLTH 3(3,0)

HLTH 3(3,0)
Trends in Elementary School Music Education: PR: MUE 3210 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.

HLTH 3(3,0)
Basic Conducting: Fundamental techniques and practice in conducting.
MUG 3202  AS 2(1,2)
Choral Conducting: PR: MUG 3101. Fundamental principles of choral conducting and rehearsal techniques. May be repeated for credit.

MUG 3302  AS 2(1,1)
Instrumental Conducting: PR: MUG 3101. Fundamental principles of instrumental conducting and rehearsal techniques. May be repeated for credit.

MUG 4103  AS 2(1,1)
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  AS 3(3,0)
History and Literature I: PR: MUT 2112. In depth study of the development of Western musical styles from antiquity to present.

MUH 4212  AS 3(3,0)
History and Literature II: PR: MUT 3115. Continuation of MUH 4211.

MUH 4216  AS 1(1,0)
Review of Music History: PR: C.I. A review of music history from Ancient Greece to the present.

MUH 4390  AS 2(2,0)

MUH 4391  AS 2(2,0)
Seminar: Music Since Bach: PR: Satisfactory music history placement exam. Selected topics from the origins of Classicism through the 19th century. Emphasis on stylistic development and formal analysis.

MUL 2010  AS 3(2,1)
Enjoyment of Music: Only non-music majors. Designed to develop an understanding of musical principles and techniques for listening to music.

MUL 3400  AS 2(1,1)
Plano Literature I: PR: Major in Music or C.I. Survey of stringed keyboard literature from the 16th century to the present with emphasis on technical, formal and performance problems.

MUL 3401  AS 2(1,1)
Plano Literature II: PR: MUL 3400. Continuation of MUL 3400.

MUL 3600  AS 1(1,0)
Song Literature I: PR: Major in Music or C.I. Survey of the development of the art song from the Baroque to the present with emphasis on technical, formal and performance problems.

MUL 3601  AS 1(1,0)
Song Literature II: PR: MUL 3600. Continuation of MUL 3600.

MUN 3110  AS 2(0,8)
Marching Band: PR: Admission by audition. Preparation for appearance at football games and special occasions. May be repeated for credit.

MUN 3120  AS 1(0,3)
Concert Band: Open to all students with audition. Study and performance of music for large ensembles. May be repeated for credit.

MUN 3140  AS 1(0,4)
Wind Ensemble: Open to all students by audition. Study and performance of music for small ensembles. May be repeated for credit.

MUN 3280  AS 1(0,3)
Community Orchestra: PR: C.I. Open to all students. Audition for wind and percussion players required. Repertoire from symphonic literature. May be repeated for credit.

MUN 3310  AS 1(0,3)
University Choir: Open to all students by audition. Study and performance of large ensemble music. Possible tours. May be repeated for credit.

MUN 3340  AS 1(0,3)
Madrigal Singers: Open to all students by audition. Extra rehearsals and Madrigal Dinners required. Tours. May be repeated for credit.

MUN 3341  AS 1(0,3)
Chamber Chorus: Open to all students by audition. Study and performance of music for small ensembles. May be repeated for credit.

MUN 3380  AS 1(0,3)
Oratorio Choir: Open to all students, faculty, and members of the community for performance of large works. May be repeated for credit.

MUN 3410  AS 1(0,2)
String Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.

MUN 3420  AS 1(0,2)
Woodwind Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.

MUN 3430  AS 1(0,2)
Brass Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.
Percussion Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.

MUN 3450
Piano Ensemble: Open to Music Majors or C.I. Study and performance of music for small ensembles. May be repeated for credit.

MUN 3710
Jazz Lab: PR: C.I. Open to all students by audition. Study and performance of music for jazz ensembles. May be repeated for credit.

MUN 3711
Jazz/Pop Ensemble: PR: C.I. Open to all students. Study and performance of music for small ensembles. May be repeated for credit.

MUO 3501
Opera Workshop: PR: C.I. Study of expressive emotion in relation to musical theatre; staging and performance of prepared studies of popular music for vocal ensembles. May be repeated for credit.

MUS 1010
Music Forum: A series of special musical events required of music majors. Includes lectures and recitals by faculty, students, and guest artists.

MUS 4905
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 1241
Ear Training and Sight Singing IA: Aural and visual/oral comprehension of elements of music—rhythm, melody, harmony, form. Intended to be taken with MUT 2111.

MUT 1242

MUT 2111
Music Theory IA: Open to all students. Writing, performance, analysis of and music of various stylistic periods.

MUT 2112
Music Theory IB: PR: MUT 2111. Continuation of MUT 2111.

MUT 2246
Ear Training and Sight Singing IIA: PR: MUT 1242. Continuation of MUT 1242. Intended to be taken with MUT 3116.

MUT 2247
Ear Training and Sight Singing IIB: PR: MUT 2246. Continuation of MUT 2246. Intended to be taken with MUT 3117.

MUT 3116
Music Theory IIA: PR: MUT 2112. Continuation of MUT 2111-2112; writing, performance, and analysis of music of various stylistic periods.

MUT 3117

MUT 3246
Ear Training and Sight Singing III: PR: MUT 2247. Continuation of MUT 2247. Intended to be taken with MUT 4561.

MUT 3311

MUT 3353
Jazz Skills I: PR: C.I. Elements of jazz improvisation. Emphasis on listening, harmony, basic arranging and jazz forms.

MUT 3354
Jazz Skills II: PR: MUT 3353 or C.I. Continuation of Jazz Skills I.

MUT 4031
Review of Music Theory: PR: C.I. A comprehensive review of harmonic and analytic skills. May be repeated for credit.

MUT 4249
Review of Sight-Singing and Ear Training: An intensive review of aural skills. May be repeated for credit.

MUT 4344

MUT 4561
Music Theory III: PR: MUT 3117. Continuation of MUT 3116-3117; writing, performance, and analysis of music of various stylistic periods.

Class Brass: Class instruction in beginning brass playing. May be repeated for credit.


Secondary French Horn: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in French Horn. Intended for non-music majors. May be repeated for credit.


Secondary Tuba: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in tuba. Intended for non-music majors. May be repeated for credit.

Trumpet I: PR: Major in music or consent of chair; audition. May be repeated for credit.

French Horn I: PR: Major in music or consent of chair; audition. May be repeated for credit.

Trombone I: PR: Major in music or consent of chair; audition. May be repeated for credit.

Baritone I: PR: Major in music or consent of chair; audition. May be repeated for credit.

Tuba I: PR: Major in music or consent of chair; audition. May be repeated for credit.

Trumpet II: PR: MVMB 2411 and competence determined by faculty jury. Continuation of MVMB 2411. May be repeated for credit.

French Horn II: PR: MVMB 2412 and competence determined by faculty jury. Continuation of MVMB 2412. May be repeated for credit.

Trombone II: PR: MVMB 2413 and competence determined by faculty jury. Continuation of MVMB 2413. May be repeated for credit.

Baritone II: PR: MVMB 2414 and competence determined by faculty jury. Continuation of MVMB 2414. May be repeated for credit.

Tuba II: PR: MVMB 2415 and competence determined by faculty jury. Continuation of MVMB 2415. May be repeated for credit.

Trumpet III: PR: MVMB 3421 and competence determined by faculty jury. Continuation of MVMB 3421. May be repeated for credit.

French Horn III: PR: MVMB 3422 and competence determined by faculty jury. Continuation of MVMB 3422. May be repeated for credit.

Trombone III: PR: MVMB 3423 and competence determined by faculty jury. Continuation of MVMB 3423. May be repeated for credit.

Baritone III: PR: MVMB 3424 and competence determined by faculty jury. Continuation of MVMB 3424. May be repeated for credit.

Tuba III: PR: MVMB 3425 and competence determined by faculty jury. Continuation of MVMB 3425. May be repeated for credit.

Trumpet IV: PR: MVMB 4431 and competence determined by faculty jury. Continuation of MVMB 4431. May be repeated for credit.

French Horn IV: PR: MVMB 4432 and competence determined by faculty jury. Continuation of MVMB 4432. May be repeated for credit.
MVB 4444
Baritone IV: PR: MVB 4434 and competence determined by faculty jury. Continuation of MVB 4434. May be repeated for credit.

MVB 4445
Tuba IV: PR: MVB 4435 and competence determined by faculty jury. Continuation of MVB 4435. May be repeated for credit.

MVB 5451
Trumpet V: PR: C.I.

MVB 5452
French Horn V: PR: C.I.

MVB 5453
Trombone V: PR: C.I.

MVB 5454
Baritone V: PR: C.I.

MVB 5455
Tuba V: PR: C.I.

MVK 1111
Class Piano I: Class instruction for beginning piano students. Not open to music majors whose major performing medium is piano.

MVK 1121
Class Piano II: PR: MVK 1111 or C.I. Continuation of MVK 1111. Not open to music majors whose major performing medium is piano.

MVK 1131
Class Piano III: PR: MVK 1121 or C.I. Continuation of MVK 1121.

MVK 1141
Class Piano IV: PR: MVK 1131 or C.I. Continuation of MVK 1131.

Primary Organ: PR: Consent of Music Chair. CR: Performing ensemble. Advanced instruction in organ. Intended for non-music majors. May be repeated for credit.

MVK 1573

MVK 2411
Piano I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVK 2413
Organ I: PR: Major in music or consent of chairperson; audition. May be repeated for credit.

MVK 3421
Piano II: PR: MVK 2411 and competence determined by faculty jury. Continuation of MVK 2411. May be repeated for credit.

MVK 3423
Organ II: PR: MVK 2413 and competence determined by faculty jury. Continuation of MVK 2413. May be repeated for credit.

MVK 4431
Piano III: PR: MVK 3421 and competence determined by faculty jury. Continuation of MVK 3421. May be repeated for credit.

MVK 4433
Organ III: PR: MVK 3423 and competence determined by faculty jury. Continuation of MVK 3423. May be repeated for credit.

MVK 4441
Piano IV: PR: MVK 4431 and competence determined by faculty jury. Continuation of MVK 4431. May be repeated for credit.

MVK 4443
Organ IV: PR: MVK 4433 and competence determined by faculty jury. Continuation of MVK 4433. May be repeated for credit.

MVK 4640
Piano 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
Piano Pedagogy II: PR: C.I. Continuation of MVK 4640. Emphasis on intermediate through advanced levels. May be repeated for credit.

MVK 5451
Piano V: PR: C.I.

MVK 5453
Organ V: PR: C.I.

MVO 1214
MVO 3114
Recorder I: Open to non-music majors. Class instruction in beginning recorder playing.
MVO 3124
Recorder II: PR: C.I. Class instruction in advanced recorder solo and ensemble playing. Open to music students and non-music students who have taken MVO 3114.
MVO 5250
Advanced Secondary Instruction: PR: Graduate Standing and C.I. Advanced instructional techniques on a secondary instrument or in voice. May be repeated for credit.
MVP 1110
Class Percussion: Class instruction in beginning percussion playing.
MVP 1211
MVP 2411
Percussion I: PR: Major in music or consent of chair; audition. May be repeated for credit.
Percussion II: PR: MVP 2411 and competence determined by faculty jury. Continuation of MVP 2411. May be repeated for credit.
Percussion III: PR: MVP 3421 and competence determined by faculty jury. Continuation of MVP 3421. May be repeated for credit.
Percussion IV: PR: MVP 4431 and competence determined by faculty jury. Continuation of MVP 4431. May be repeated for credit.
Percussion V: PR: C.I.
MVS 1110
Class Strings: Class instruction in beginning string playing.
MVS 1211
MVS 1212
MVS 1213
MVS 1214
MVS 1215
Secondary Harp: Instruction in beginning harp playing.
MVS 1216
MVS 1876
Class Guitar I: Open only to non-music majors. Class instruction in beginning guitar playing.
MVS 2411
Violin I: PR: Major in music or consent of chair; audition. May be repeated for credit.
MVS 2412
Viola I: PR: Major in music or consent of chair; audition. May be repeated for credit.
MVS 2413
Cello I: PR: Major in music or consent of chair; audition. May be repeated for credit.
MVS 2414
Bass I: PR: Major in music or consent of chair; audition. May be repeated for credit.
MVS 2415
Harp I: Major in music or consent of chair; audition. May be repeated for credit.
MVS 2416
Guitar I: PR: Major in music or consent of chair; audition. May be repeated for credit.
MVS 2826
Class 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 3421
Violin II: PR: MVS 2411 and competence determined by faculty jury. Continuation of MVS 2411. May be repeated for credit.
MVS 3422
Viola II: PR: MVS 2412 and competence determined by faculty jury. Continuation of MVS 2412. May be repeated for credit.
MVS 3423  AS 2(1,1)
Cello II: PR: MVS 2413 and competence determined by faculty jury. Continuation of MVS 2413. May be repeated for credit.

MVS 3424  AS 2(1,1)
Bass II: PR: MVS 2414 and competence determined by faculty jury. Continuation of MVS 2414. May be repeated for credit.

MVS 3425  AS 2(1,1)
Harp II: PR: MVS 2415 and competence determined by faculty jury. Continuation of MVS 2415. May be repeated for credit.

MVS 3426  AS 2(1,1)
Guitar II: PR: MVS 2416 and competence determined by faculty jury. Continuation of MVS 2416. May be repeated for credit.

MVS 4431  AS 2(1,1)
Violin Ill: PR: MVS 3421 and competence determined by faculty jury. Continuation of MVS 3421. May be repeated for credit.

MVS 4432  AS 2(1,1)
Viola Ill: PR: MVS 3422 and competence determined by faculty jury. Continuation of MVS 3422. May be repeated for credit.

MVS 4433  AS 2(1,1)
Cello Ill: PR: MVS 3423 and competence determined by faculty jury. Continuation of MVS 3423. May be repeated for credit.

MVS 4434  AS 2(1,1)
Bass Ill: PR: MVS 3424 and competence determined by faculty jury. Continuation of MVS 3424. May be repeated for credit.

MVS 4435  AS 2(1,1)
Harp Ill: PR: MVS 3425 and competence determined by faculty jury. Continuation of MVS 3425. May be repeated for credit.

MVS 4436  AS 2(1,1)
Guitar Ill: PR: MVS 3426 and competence determined by faculty jury. Continuation of MVS 3426. May be repeated for credit.

MVS 5451  AS 2(1,0)
Violin V: PR: C.I.

MVS 5452  AS 2(1,0)
Viola V: PR: C.I.

MVS 5453  AS 2(1,0)
Cello V: PR: C.I.

MVS 5454  AS 2(1,0)
Bass V: PR: C.I.

MVS 5455  AS 2(1,0)
Harp V: PR: C.I.

MVS 5456  AS 2(1,0)
Guitar V: PR: C.I.

MVV 1111  AS 1(0,1)
Class Voice: Class instruction in beginning voice. May be repeated for credit.

MVV 1873  AS 1(0,1)

MVV 2411  AS 2(1,1)
Voice I: PR: Major in music or consent of chair; audition. May be repeated for credit.

MVV 3421  AS 2(1,1)
Voice II: PR: MVV 2411 and competence determined by faculty jury. Continuation of MVV 2411. Major in music or consent of chair; audition. Private and class lessons. May be repeated for credit.
MVV 4431  
Voice Ill: PR: MVV 3421 and competence determined by faculty jury. Continuation of MVV 3421. May be repeated for credit.

MVV 4441  
Voice IV: PR: MVV 4431 and competence determined by faculty jury. Continuation of MVV 4431. May be repeated for credit.

MVV 4640  
Voice Pedagogy I: PR: C.I. Methods, materials for vocalists; teachers, conductors; voice production; diagnosis of problems and correction; demonstration and observation of teaching; beginning to intermediate levels. 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 4640  
Voice Pedagogy I: PR: C.I. Methods, materials for vocalists; teachers, conductors; voice production; diagnosis of problems and correction; demonstration and observation of teaching; beginning to intermediate levels. 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 4640  
Voice Pedagogy I: PR: C.I. Methods, materials for vocalists; teachers, conductors; voice production; diagnosis of problems and correction; demonstration and observation of teaching; beginning to intermediate levels. 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.

Class Woodwinds: Class instruction in beginning woodwind playing. May be repeated for credit.

MVW 1211  

MVW 1212  

MVW 1213  

MVW 1214  

MVW 1215  

MVW 2411  
Flute I: PR: Major in music or consent of chair; audition. May be repeated for credit.

MVW 2412  
Oboe I: PR: Major in music or consent of chair; audition. May be repeated for credit.

MVW 2413  
Clarinet I: PR: Major in music or consent of chair; audition. May be repeated for credit.

MVW 2414  
Bassoon I: PR: Major in music or consent of chair; audition. May be repeated for credit.

MVW 2415  
Saxophone I: PR: Major in music or consent of chair; audition. May be repeated for credit.

MVW 3421  
Flute II: PR: MVW 2411 and competence determined by faculty jury. Continuation of MVW 2411. May be repeated for credit.

MVW 3422  
Oboe II: PR: MVW 2412 and competence determined by faculty jury. Continuation of MVW 2412. May be repeated for credit.

MVW 3423  
Clarinet II: PR: MVW 2413 and competence determined by faculty jury. Continuation of MVW 2413. May be repeated for credit.

MVW 3424  
Bassoon II: PR: MVW 2414 and competence determined by faculty jury. Continuation of MVW 2414. May be repeated for credit.

MVW 4431  
Flute III: PR: MVW 3421 and competence determined by faculty jury. Continuation of MVW 3421. May be repeated for credit.

MVW 4432  
Oboe III: PR: MVW 3422 and competence determined by faculty jury. Continuation of MVW 3422. May be repeated for credit.

MVW 4433  
Clarinet III: PR: MVW 3423 and competence determined by faculty jury. Continuation of MVW 3423. May be repeated for credit.

MVW 4434  
Bassoon III: PR: MVW 3424 and competence determined by faculty jury. Continuation of MVW 3424. May be repeated for credit.
MVW 4435 AS 2(1,1)
Saxophone III: PR: MVW 3425 and competence determined by faculty jury. Continuation of MVW 3425. May be repeated for credit.

MVW 4441 AS 2(1,1)
Flute IV: PR: MVW 4431 and competence determined by faculty jury. Continuation of MVW 4431. May be repeated for credit.

MVW 4442 AS 2(1,1)
Oboe IV: PR: MVW 4432 and competence determined by faculty jury. Continuation of MVW 4432. May be repeated for credit.

MVW 4443 AS 2(1,1)
Clarinet IV: PR: MVW 4433 and competence determined by faculty jury. Continuation of MVW 4433. May be repeated for credit.

MVW 4444 AS 2(1,1)
Bassoon IV: PR: MVW 4434 and competence determined by faculty jury. Continuation of MVW 4434. May be repeated for credit.

MVW 4445 AS 2(1,1)
Saxophone IV: PR: MVW 4435 and competence determined by faculty jury. Continuation of MVW 4435. May be repeated for credit.

MVW 5451 AS 2(1,0)
Flute V: PR: C.I.

MVW 5452 AS 2(1,0)
Oboe V: PR: C.I.

MVW 5453 AS 2(1,0)
Clarinet V: PR: C.I.

MVW 5454 AS 2(1,0)
Bassoon V: PR: C.I.

MVW 5455 AS 2(1,0)
Saxophone V: PR: C.I.

NUR 3066 HLTH 2
Health Assessment: Theory and skills of physical/mental assessment of clients.

NUR 3119 HLTH 2
Introduction to Baccalaureate Nursing: Overview of baccalaureate nursing philosophy, objectives, conceptual framework, scope of practice, history, legal and ethical issues.

NUR 3166 HLTH 3
Critical Inquiry: A study of approaches to problematic situations in nursing. Selected experiences in investigating, analyzing, and interpreting nursing research.

NUR 3709 HLTH 6

NUR 3748C HLTH 9
Concepts Basic to Nursing Practice: PR: Acceptance into upper division limited access nursing program. Beginning principles and concepts of nursing theory and practice utilizing the nursing process in selected clinical settings.

NUR 3749C HLTH 11
Scientific Theories of Nursing I: PR: NUR 3748C and HSC 4550. Theories/nurses role in health maintenance, preventive, acute and rehabilitative care with individuals of all ages in varied clinical settings.

NUR 3755C HLTH 6
Scientific Theories of Nursing II: PR: NUR 3749C. Principles of maternal and infant health with application in selected clinical settings. The family approach to the birthing process is emphasized.

NUR 3795 HLTH 1
Nursing Seminar I: CR: NUR 3749C. Discussion of current issues related to nursing practice. Exploration of specific problems associated with NUR 3207C.

NUR 3796 HLTH 1
Nursing Seminar II: CR: NUR 3755C. An opportunity to explore maternal/ infant, fathering, sibling and family relationships.

NUR 4297 HLTH 2
Cardiac Nursing, PR: NUR 4660C. Nursing management of cardiac disorders as they affect the physiological, psychological, sociocultural, and spiritual adaptation of the individual and family.

NUR 4660C HLTH 3
Complex Nursing Problems: PR: NUR 3755C. Comprehensive nursing care to individuals with complex and critical health problems in acute care (intensive or critical).

NUR 4756C HLTH 6

NUR 4757C HLTH 7
Scientific Theories of Nursing V: PR: NUR 4756C. Scientific Theories and principles of leadership and management of patient care. Application of the decision-making process in selected clinical experiences.
NUR 4756C
Scientific Theories of Nursing IV: Theories, principles and interventions in public health nursing. Group discussion and clinical practice in selected settings.

NUR 4797
Public Safety.

Urban Design: PAD 5424, PAD 5337
Introduction to Urban Planning: Issues of urbanization, regional development, and comprehensive planning, environmental planning, and social planning.

NUR 4905C

NUR 4909C
Nursing Independent Study: PR: NUR 4756C. An opportunity for in-depth study in an area of special interest to the student.

OCE 1012
Oceanography and Space: Fundamentals of oceanography and space with emphasis on the engineering aspects and uses.

ORI 3001
Interpretation I: 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.)

ORI 3002
Interpretation II: 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.

ORI 3210
Interpretation III: 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.

OST 1100
Introductory Typewriting: Instruction in touch control of the typewriter keyboard. Introduction to typing letters, tables, manuscripts, and typing composition.

OST 2110
Typewriting Production: Extend speed and accuracy in touch typewriting. Develop skills for advanced letters, tables, and manuscripts.

OST 3120
Professional Typewriting Production: PR: OST 2110 or C.I. Develop professional level speed, accuracy, and production skills in the use of the typewriter.

OST 3781
Office Technology: PR: OST 1100 or C.I. Basic operation and function of technological media in modern business offices, including word processing equipment.

PAD 3003
Public Administration: An examination of the basic environment, culture, and organization of public administration in the United States.

PAD 4034
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.

PAD 4104
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.

PAD 4110
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.

PAD 4204
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.

PAD 4414
Public Personnel Administration: The history, operating components, structural characteristics and increasing impact of laws and related sanctions on personnel practices of public agencies.

PAD 4941
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.

PAD 5041
Ethics and Values in Public Administration: Issues of ethics in the public sector basis for public concern, past practice, present patterns of response, individual/social aspects of ethical behavior.

PAD 5336
Introduction to Urban Planning: Issues of urbanization, regional development, land use and comprehensive planning, environmental planning, and social planning.

PAD 5337
Urban Design: Planning techniques such as planned unit developments, capital improvements planning, and growth management, and planning methods including needs assessment and graphic design.

PAD 5424
Labor Relations in the Public Sector: Current trends and developments in employment relations in the public sector, especially employee organization, negotiations and the collective bargaining process.
PAD 5806
Local Government Operations: Operational Functions of municipal and county governments and the role of the chief executive officer.

PAD 5807
Administrative Practice in the Public Sector: Application of various theoretical concepts to the "real world" of public administration. Policy formulation and execution are examined through the case study mode.

PCB 3023
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 contractibility.

PCB 3043
Principles of Ecology: 8 hours in biological sciences. Elements of ecosystems, biogeochemical cycling, environmental factors, interactions, population dynamics and community development.

PCB 3043L

PCB 3063
Genetics: PR: BSC 2010C. Basic principles of heredity as applied to prokaryotes and eukaryotes.

PCB 3063L
Genetics Laboratory: CR: PCB 3063. Introduction to laboratory techniques of genetics.

PCB 3233
Immunology: PR: BSC 2010C. Basic principles of immune reactions, antigen antibody interactions, cell mediated immunity, tumor immunity and immunotherapy.

PCB 3233L
Immunology Laboratory: CR: PCB 3233. Introduction to laboratory techniques in immunology.

PCB 3301C

PCB 3703C
Human Physiology: PR: BSC 2010C or equivalent. The physiology and interrelationships of organ systems of the human body.

PCB 4302C
Limbology I: PR: PCB 3043 or C.I. Introduction to limnology and methods for freshwater ecology with respect to physical, chemical and biological parameters.

PCB 4303C
Limbology II: PR: PCB 4302C or C.I. Primary and secondary productivity and interaction of factors such as nutrients, pollutants, temperature, radiation, turbidity, and seasons.

PCB 4723
Animal Physiology: PR: PCB 3023 or C.I. Functions of body processes occurring in animals with emphasis on vertebrate physiology.

PCB 5045
Conservation Biology: PR: PCB 3043 and PCB 3063. Scientific basis of conservation; conservation of ecosystems, populations, exploited species, and endangered species. Weekend field trips are required.

PCB 5046C

PCB 5675C
Evolutionary Biology: PR: PCB 3043 and PCB 3063 or C.I. Review of concepts in evolutionary biology. Emphasis on evolution at and below the species level; consideration of genetic and ecological factors in divergence and speciation.

PCB 5806
Endocrinology: PR: PCB 4723 and BCH 4053 or C.I. Mechanisms of action of hormones; interrelationship between the nervous and endocrine systems.

PCO 4203
Interviewing and Counseling: PR: PSY 2013, PPE 3003. A review of various interviewing and counseling theories and techniques as well as practical experience in interviewing and counseling procedures.

PEL 2021
Racket Sports: Study of performance and application of advanced skills, rules and etiquette of the sports of racketball and badminton. Physiological and social values accruing from this lifetime sport.

PEL 2121
Beginning Golf: Performance and application of basic skills, rules and etiquette. Physiological and social values accruing from this lifetime sport.

PEL 2320
Basic Volleyball and Softball: The analysis of offensive and defensive alignment, techniques and strategies.

PEL 2341
Beginning Tennis: Performance and application of basic skills, rules, and etiquette. Physiological and social values accruing from this lifetime sport.
Basic Football and Basketball: The analysis of offensive and defensive alignment, techniques and strategies.

Intermediate Golf: PR: PEL 2121 or equivalent competency. A study of performance and application of intermediate skills, rules, and etiquette. Physiological and social values accruing from this lifetime sport.

Advanced Tennis: PR: PEL 2341 or equivalent competency. A study of performance and application of advanced skills, rules, and etiquette. Physiological and social values accruing from this lifetime sport.

Personal Fitness: Study of personal fitness concepts, with opportunities to develop individual optimal level of fitness and an improved lifestyle through high-level wellness.

Strength Resistance Training: Study of fitness and strength development through resistance exercise.

Aerobic Dancing: Appropriate rhythmical muscle toning movements that develop aerobic fitness; concepts taught include warm-up, flexibility, stretching, cool down and heart rate.

Cycling: Study of the techniques and physiological benefits of the lifetime sport of cycling. This course is activity oriented and requires access to any model bicycle.

Body Development: An in-depth study of individual physical (musculo-skeletal, neuromuscular, cardio-respiratory) fitness. Emphasis on individual diagnosis, principles, procedures, and conduct of related exercise programs.

Elementary Swimming: For non-swimmers and beginning swimmers. Development and study of technique in the basic skills of water safety and swimming.

Advanced Swimming: PR: PEN 1121 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.

Aquatics: PR: PEL 2122 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.

Life Saving: Instruction, training and certification in basic life saving swimming skills.

Advanced Sports Analysis: Advanced analysis of sports for the purpose of teaching and coaching.

Instructional Analysis in Team Sports: PR: Sophomore standing. Analysis of team sports for purposes of teaching and coaching. Includes techniques, conditioning, and strategy.

Instructional Analysis in Aquatics: PR: Sophomore standing or C.I. Analysis of aquatic activities for purposes of teaching and coaching. Includes techniques, conditioning, and strategy.

Water Safety Instruction: PR: PEN 3113 or equivalent competency. Methods of teaching water safety. Includes practical application and certification.

Physical Education Professional Development: (Unsatisfactory/Satisfactory grading). The development in the profession of physical education, and action participation in current activities.

Games for the Elementary School Physical Education Program: The understanding, designing and teaching the low-organizational game-activities for the elementary school child.

Sports Psychology: A review of principles of psychology related to the enhancement of satisfaction and performance in sports.

Coaching and Officiating: Theory and methods of coaching and officiating techniques.

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.
Physical Education in Secondary School: PR: Admission to Junior Block, or C.I. Study of course objectives for the secondary school curriculum and survey of methods and materials having special application for teaching Physical Education.

Motor Development and Learning: PR: 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.

Anatomic and Mechanical Kinesiology: Anatomic and mechanical principles involved in producing skilled human movement; with applications.

Biomechanics: Anatomic and mechanical principles involved in producing skilled human movement with applications.

Physiology and Human Performance: Physiological factors that contribute to performance, with emphasis on energetics, gas transport, pulmonary mechanisms, nutrition assessment, training and performance strategies.

Fitness Assessment and Exercise Intervention: Aerobic function and coronary risk factors -- testing, interpretations and exercise strategies.

Organization and Administration of Typical and Atypical Physical Education Program: Administering and organizing physical education programs for instruction of typical and atypical students within the total school physical education program.


Introduction to Sports Medicine: A comprehensive study of care of sports injuries including instruction in attitudes, health and conditioning in sport participants.

Sports Medicine Field Application: Demonstration and Application of the treatment for various sports injuries.

Human Injuries: The recognition and rehabilitation of human injuries.

Adapted Physical Education: Principles and methods of adapting physical education activities and programs for atypical participants, mainstreaming rationale and methods analyzed.

Exercise Physiology and Health: In depth study of adaptations of cardiovascular and respiratory systems during varying degrees of exercise.

Photography: PR: ART 2201C. Consideration of basic technical and aesthetic factors in using still photography as a vehicle for visual expression.

Photography I: Photography as a communication device; use of still camera; basic photographic technique. Open to all majors.

Photography II: PR: PGY 3610. Learning darkroom procedures in 35 mm black-and-white photography.

Color Photography for the Mass Media: PR: PGY 3610. Taking pictures, photo essays in color, developing and printing via the Cibachrome process.

Advanced Photography: PR: PGY 3401C. May be repeated for credit.

Special Problems in Photography: PR: PGY 3401C or C.I. A series of directed photographic problems of a research nature. May be repeated for credit.

Special Problems in Film Design: A series of exercises in craft, techniques, and design for film production, including animation.

Ancient Philosophy: PR: PHI 2100 or C.I. Foundations of Western philosophy in ancient Greek thinking about man and nature, including the pre-Socratics, Socrates, Plato, Aristotle.

Modern Philosophy: PR: PHI 2100 or C.I. Challenges of science and religion to philosophy. Responses of faith, reason, relativism, and atheism.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHI 1100</td>
<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>AS 3(3,0)</td>
<td></td>
</tr>
<tr>
<td>PHI 2010</td>
<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>AS 3(3,0)</td>
<td></td>
</tr>
<tr>
<td>PHI 2130</td>
<td>Formal Logic I: Analysis of logical form and of procedures used in deductive inference, of the kind underlying mathematical reasoning.</td>
<td>AS 3(3,0)</td>
<td></td>
</tr>
<tr>
<td>PHI 3131</td>
<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>AS 3(3,0)</td>
<td></td>
</tr>
<tr>
<td>PHI 3600</td>
<td>Ethics: An examination of the nature of moral problems, judgements and principles with an emphasis on recent formulations in ethical theory.</td>
<td>AS 3(3,0)</td>
<td></td>
</tr>
<tr>
<td>PHI 3630</td>
<td>Practical Moral Dilemmas: Probes practical moral problems arising out of advancement and complexities in modern professional life. Considers one or more of the following: medicine, business, technology, law.</td>
<td>AS 3(3,0)</td>
<td></td>
</tr>
<tr>
<td>PHI 3700</td>
<td>Philosophy of Religion: An examination of basic ideas, beliefs, attitudes and functions of religion, with emphasis upon questions of conceptual meaning and cognitive justification.</td>
<td>AS 3(3,0)</td>
<td></td>
</tr>
<tr>
<td>PHI 3800</td>
<td>Aesthetics: An investigation into the nature of human artistic experience with special reference to questions of form, perception and style.</td>
<td>AS 3(3,0)</td>
<td></td>
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<tr>
<td>PHI 3803</td>
<td>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.</td>
<td>AS 3(3,0)</td>
<td></td>
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<tr>
<td>PHI 4360</td>
<td>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.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>PHI 4360</td>
<td>Theory of Knowledge: PR: PHI 2010 and PHI 2130. The study of knowledge: What is it? Can we have it? Topics include skepticism, &quot;other minds,&quot; certainty, and belief.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>PHI 4400</td>
<td>Philosophy of Science: An examination of the conceptual foundations and methodology of modern science.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>PHI 4770</td>
<td>Atheism: A study of the principal theoretical and practical objections to theism.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>PHM 3100</td>
<td>Freedom, Justice and Human Rights: Philosophical analysis and evaluation of selected issues arising from the interaction of the individual, society, and the state; particular attention to topics such as freedom, equality, justice, and rights.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>PHM 3350</td>
<td>Fundamentals of Marxism: A study of the basic principles of Marxism, formulated and developed by Marx, Engels and Lenin.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>PHP 3786</td>
<td>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.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>PHP 4788</td>
<td>Contemporary Marxism: An examination of some major issues and perspectives in current Marxist philosophy and social theory.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>PHY 2053C</td>
<td>College Physics I: PR: MAC 1104 or MGF 1203. Kinematics, Newton’s Law, circular motion, torque, center of gravity, work, energy, power, machines, waves, sound, heat, thermodynamics, latent heat, conduction, convection, radiation.</td>
<td>AS 4(3,3)</td>
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<tr>
<td>PHY 2054C</td>
<td>College Physics II: PR: PHY 2053C or one year of high school physics. Fluids, Bernoulli, viscosity, kinetic theory, electricity, magnetism, induction, generators, motors, DC-AC circuits, instrumentation, semiconductors, geometrical and physical optics, X-rays, radioactivity, dosimetry.</td>
<td>AS 4(3,3)</td>
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<tr>
<td>PHY 3014C</td>
<td>Physics for Teachers I: PR: C.I. “Hands-on” lecture-laboratory course. Statics, simple machines, density, solar energy, heat, weather, waves, optical reflections, naked eye astronomy.</td>
<td>AS 3(2,2)</td>
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<tr>
<td>PHY 3048</td>
<td>Physics for Engineers and Scientists I: PR: MAC 3311, PHY 2053C or high school physics. Mechanics, properties of matter, fluids, thermodynamics.</td>
<td>AS 3(3,0)</td>
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<tr>
<td>PHY 3048L</td>
<td>Physics Laboratory for Engineers and Scientists I: CR: PHY 3048. Laboratory experiments covering selected topics in physics related to PHY 3048.</td>
<td>AS 1(0,3)</td>
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</table>
Voter behavior as information, opinion measurement, factors effecting changes in the region and the states. Southern and political violence.

Southern structure, organization, powers, and procedures.

Mass Media and Politics: PR: POS 2041 or C.I. Influence of media on campaigns, public officials, public opinion, the definition of political news, and selected public policies.

Contemporary Revolution and Political Violence: Theories and cases of revolutionary change and political violence in the contemporary world.

Voting and Elections: Theoretical and substantive inquiry into U.S. electoral system; includes focus on voter behavior as well as national and state electoral systems.
POS 3413  The American Presidency: PR: POS 2041 or C.I. Examination of historical and contemporary role of the presidency, including presidential selection process and the office’s evolution in status, powers, administrative responsibilities, leadership, and decision-making.

POS 3424  Congress & the Legislative Process: PR: POS 2041 or C.I. Examination of the Congress as an institution undergoing dynamic change; emphasis upon recruitment of legislators, institutional and informal rules, the committee system, legislative procedures.

POS 3443  Political Parties & Processes: PR: POS 2041 or C.I. In depth study of the American political party system in the context of changing American politics; topics include: development, organization, reforms, legislative and executive roles.

POS 3703  Scope and Methods of Political Science: Introduction to the scope and methodology of political analysis. Extensive examination of the discipline, research design and methodology.

POS 4142  Metropolitan Politics: Analysis of political patterns, processes, and issues in American communities. Intergovernmental relations and structural and political arrangements in the existing and emerging metropolitan areas.

POS 4206  Political Psychology: The psychological analysis of political behavior with emphasis on the individual rather than the political system; includes political attitudes and communication, leadership, and personality influences on politics.

POS 4246  Political Socialization: PR: POS 2041 or C.I. Analysis of recruitment and socialization processes. Identification of the agents and processes of political socialization in national and cross-cultural contexts.

POS 4252  Politics of the Future: Exploration of possible political processes of the future by examining both visions of the future and specific problem areas such as ecological and technological challenges.

POS 4265  Power and Policy in the U.S.: PR: POS 2041 or C.I. Examination of the bases of political power in the U.S. In-depth study of socio-economic political linkages in the policy-making process.

POS 4284  Judicial Process & Policies: Study of the formal and informal judicial process. Legal culture, bureaucratic model, judicial recruitment and outputs, comparative judicial behavior.

POS 4412  Presidential Campaigning: PR: C.I. Introduces the process of candidate selection, convention behavior, actual campaign process and the transition of power.

POS 4445  Comparative Political Parties: The study of political party systems and processes. The course may include U.S., Canada and other political systems.

POS 4603  American Constitutional Law: PR: POS 2041 or C.I. Development of American federalism and national power, commerce clause and nationalization of the economy.

POS 4604  American Constitutional Law II: PR: POS 2041 or C.I. Development of civil liberties and civil rights in the American federal system.

POS 4622  Politics and Civil Rights: Examination of development and issues of civil rights in the second reconstruction. Course emphasis process and analysis of policy.

POS 4941  Political Science Internship: PR: C.I. Internship working with the national, state, county or municipal government. Assignments with selected civic organization, elected or appointed official.

POS 5127  Issues in State Public Policy: PR: C.I. Analysis of policy issues occurring in the American states with attention given to a single state and comparative studies.

POS 5157  Issues in Urban Public Policy: PR: C.I. Study of characteristic policy issues which arise in urban political systems, and of various public responses to those issues.

POS 5746  Quantitative Methods in Political Research: PR: C.I. Methods of model building and research design, including conceptualization and measurement of political variables; techniques of data collection and quantitative analysis; and computer usage.

POT 3204  American Political Thought: From its sources to the 20th century, including liberalism, puritanism, the Federalist, the rise of industrialism, resulting social movements, modern variations.

POT 3302  Modern Political Ideologies: A study of modern ideologies since the French Revolution including liberalism, conservatism, capitalism, nationalism, Fascism and anarchism.
Political Theory: PR: POS 2041 or C.I. Examination of various normative approaches to the study of political science, stressing contemporary developments in the field.

Ancient, Medieval and Early Modern Political Philosophy: Study of the development of political and social ideas in western thought from early Greece through the 17th century.

Modern Political Philosophy: 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).

Contemporary Democratic Theory: 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.


Drugs and Behavior: PR: PSY 2013. Effects of certain drugs upon the nervous system, behavior, and society. Causes of drugrup and mental health.


Physiological Psychology: PR: PSB 3002 or C.I. An advanced survey of the physiological basis of behavior emphasizing the relationship between the nervous system and behavior.

Physical Science: PR: MAC 1104 or MGF 1203. Fundamental laws of mechanics, heat, waves, electricity, magnetism; chemical processes and equations, properties of gases, liquids, solids, solutions. Mathematical analysis and logic applied to conclusions, inferences.

Physical Science Lab: CR: PSC 1512. Experiments to apply the scientific method to observation and analysis in mechanics, heat, light, electricity and magnetism, chemical and physical transformations.

General Psychology: An introductory survey of the basic principles, theories, and methods of contemporary psychology.

Careers in Psychology: PR: PSY 2013. An examination of various career opportunities in Psychology including educational entry requirements, and related professional issues.

Statistical Methods in Psychology: PR: STA 2014 and PSY 3214. Standard scores, confidence intervals, sampling distributions, hypothesis testing, correlation and regression as applied to research in psychology.


Parapsychology: PR: PSY 2013. An examination of the history and development of research on paranormal phenomena with special emphasis on recent developments in extrasensory perception and psychokinesis.

Undergraduate Field Work: PR: C.I. Placement in a community agency for supervised experience in applications of psychology to community problems.

History and Systems of Psychology: PR: EXP 3404 and PPE 3003. Historical development of psychology with emphasis on classical theoretical positions.
PUP 3204  AS 3(3,0)
Environmental Politics: An examination of politics and policymaking concerning issues of conservation, pollution and development of land, air and water resources.

PUP 3314  AS 3(3,0)
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  AS 3(3,0)
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.

PUP 4009  AS 3(3,0)
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 3(3,0)
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 3(3,0)
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 4510  AS 3(3,0)
Space Policy: An examination of the politics and policymaking involved with the US space program in the context of domestic demands and other international space programs.

PUP 4602  AS 3(3,0)
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 5057  AS 3(3,0)

PUP 5058  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 4800  AS 3(3,0)
Public Relations Campaigns: PR: PUR 4000. Planning and execution of public relations campaigns for profit and non-profit organizations.

RAT 3001  HLTH 3(3,0)

RAT 3241  HLTH 3(3,0)
Clinical Radiobiology: Application of the principles and theories of radiobiology to the clinical practice of radiation therapy.

RAT 3242  HLTH 2(2,0)
Oncologic Pathology: PR: Acceptance to Program. Study of neoplastic diseases including causative factors, characteristics, histologic grading, staging and treatment.

RAT 3614  HLTH 2(2,0)
Radiation Therapy Physics I: PR: Acceptance to Program. Study of radiation production, properties, interactions, measurement and protection.

RAT 4027  HLTH 3(3,0)
Radiation Oncology: Methods of radiation therapy treatment of malignant conditions of the skin, oral cavity, pharynx, sinuses, thyroid, digestive and respiratory systems.

RAT 4028  HLTH 3(3,0)
Radiation Oncology II: Methods of treatment of malignant conditions of the nervous system, eye, reproductive system, urinary system, connective tissue and lympho-reticular system.

RAT 4618C  HLTH 4(3,3)
Radiation Therapy Physics II: PR: RAT 3614. Study of radiation protection techniques, design considerations, models and characteristics of decay, handling of radionuclides and clinical dosimetry.

RAT 4619C  HLTH 4(3,3)
Radiation Therapy Physics III: PR: RAT 3614. Study of treatment planning principles and techniques including multiple beam therapy, rotation therapy, arc therapy and irregular field techniques.

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.
### Diagnostic and Corrective Reading Strategies
- **PR:** RED 3012 or C.I. and admission to Phase II. An investigation of the needs of individual learners in reading instruction. Organization and techniques for promoting optimum reading growth. Concurrent school experiences required. 

**ED 3(3,1)**

### Developmental Reading
- Principles, procedures, organization, and current practices in the elementary reading program. Materials and methods of instruction. 

**ED 3(3,0)**

### Reading in the Secondary School
- **PR:** Basic Teacher Certification or C.I. Nature of the adolescent reader; organizational patterns, principles and procedures; diagnostic and remediation materials. 

**ED 3(3,0)**

### Classroom Diagnosis and Treatment of Reading Difficulties
- **PR:** RED 5147 or equivalent. Classroom diagnosis and corrective teaching in reading; instructional materials. Case Study required. 

**ED 3(3,1)**

### 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. 

**BA 3(3,0)**

### Real Estate Investment Analysis
- **PR:** FIN 3403. Focus on real estate decision making in the private sector utilizing tools of financial and economic analysis. 

**BA 3(3,0)**

### World Religions
- Basic features and historical background on Confucianism, Taoism, Hinduism, Buddhism, Judaism, Christianity and Islam. 

**AS 3(3,0)**

### The Hebrew and Christian Heritage
- The Old and New Testaments as religious documents; their socio-political context in the Ancient Near East. 

**AS 3(3,0)**

### Hinduism
- A study of Hindu religious ideas and scriptures; the Vedas, the Upanishads, the Bhagavad Gita, and later works. 

**AS 3(3,0)**

### Religions of China and Japan
- A study of basic concepts in Shinto, Taoism, Confucianism, Buddhism, and Zen. 

**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. 

**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. 

**AS 3(3,0)**

### Studies in Christianity
- An inquiry into the foundations and development of Christian thought in various parts of the world. 

**AS 3(3,0)**

### Seminar in Jewish Studies
- An inquiry into the foundations and development of Jewish thought in various parts of the world. 

**AS 3(3,0)**

### Mysticism
- The models and aims of the mystic, both Eastern and Western, as seen in art, music, and literature. 

**AS 3(3,0)**

### World Myths and Their Meaning
- A comparative study of myths from various cultures; common themes and their archetypal meaning. 

**AS 3(3,0)**

### Modern Theology
- Explores the revolution in religious thought prompted by Kierkgaard, Tillich, Barth, Niebuhr, and Bonhoeffer, and the secular trends suggested by Nietzsche, Altrize, Cox, and Hamilton. 

**AS 3(3,0)**

### Introduction to Respiratory Therapy
- **PR:** Admission to the professional upper division Respiratory Therapy Program. Fundamental respiratory principles and practices will be studied. Introduction to the profession and basic methods are covered. Lecture and lab. 

**HLTH 4(3,3)**

### Mechanical Ventilation
- **PR:** RET 3026C. Function and use of mechanical ventilators, patient evaluation methods. All forms of ventilatory support will be studied. Lecture - Laboratory. 

**HLTH 3(2,3)**

### 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. 

**HLTH 1(1,1)**

### Pediatric Respiratory care
- **PR:** C.I. The study of childhood respiratory diseases, congenital problems infections, metabolic disorders, and AIDS. 

**HLTH 4(3,3)**

### Clinical Practice I
- **PR:** C.I. Basic equipment and patient care. IPPB Therapy. Cleaning sterilization and maintenance procedures. Suction techniques. 

**HLTH 5(1,16)**
Clinical Practice II: PR: C.I. Patient care with advanced respiratory equipment. Tracheostomy care. Introduction to cardiopulmonary resuscitation. Introduction to critical care units. Advanced life support techniques and equipment.


Cardiopulmonary Diagnostics I: PR: RET 4244C. Non-invasive cardiac diagnostics including echocardiography, nuclear cardiology and stress testing.

Cardiopulmonary Diagnostics II: PR: RET 4244C and RET 4284C. Invasive cardiac diagnostic and therapeutic measures including cardiac catheterization, PTCA, streptokinase use and heart surgery.

Pulmonary Function Studies: PR: RET 3026C. Detailed procedures and tests to provide information for diagnosis of pulmonary disease. Lecture-laboratory.

Chest Medicine: PR: APB 3263C. Disease states treated medically in conjunction with one or more modalities of respiratory therapy.


Medical Research Seminar: PR: STA 3023. Introduction to research and research methods used in medicine. Use of statistical and computer tools in problem solving.

Selected Topics in Respiratory Therapy: PR: C.I. Current topics of adult critical care, as they apply to the advanced study of respiratory therapy.

Research Methods in Cardiopulmonary Physiology: Introduction to methods used in scientific and medical research in cardiopulmonary physiology. Literature review, experimentation, and data analysis.

Principles of Risk and Insurance: PR: STA 2014 or STA 3023. 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 Systems. PR: C.I. Health safety laws/rules; community interrelationships; liability insurance types/contracts; malpractice.

Risk Management Practicum. PR: RMI 4222 Assignment to a selected health care facility serving in a administrative capacity under the direction of a Certified Risk Manager.

Introduction to Radiologic Sciences: Study of medical imaging and radiation therapy principles and procedures. For prospective and beginning majors in Radiologic Sciences.


Introduction to Patient Care: PR: Acceptance to the Program. Provide the student with fundamentals of patient care methods related to radiography.

Pathophysiology: PR: C.I. The study of radiologic science in the diagnosis and treatment of disease.
Environmental Monitoring Techniques: A study of the techniques and procedures used to measure environmental exposure. Guidelines for air, food and water protection are discussed as well as nuclear reactor safety and accident management.

Radiation Monitoring Instrumentation: A study of the principle of operation and application of radiation detection and measuring devices used in external beam and radioisotopes counting techniques.

Medical Physics: PR: RTE 3684C or C.I. Study of radiation production, characteristics, detection and measurement and protection including barrier thickness calculation and shielding.

Inspection and Compliance Evaluation: A study of the state and federal standards for the inspection and compliance testing of radiographic facilities, compliance testing of radiographic facilities, shielding design, requirements and dose calculations.

Principles of Radiographic Exposure I: An introduction to the technical variables influencing radiographic and fluoroscopic image quality including equipment considerations, prime exposure factors, image receptors and accessory exposure devices.

Principles of Radiographic Exposure II: PR: RTE 3412C or C.I. Study of exposure and photographic processing variables influencing radiographic image quality.

Radiographic Procedures I: PR: Admission to the program. Provides fundamental knowledge of radiographic positioning, equipment manipulation and quality evaluation of radiographic studies of the chest, abdomen, routine contrast studies and the upper extremity.

Radiographic Procedures II: PR: RTE 3528C or C.I. Continuation of radiographic positioning, equipment manipulation, and quality evaluation of radiographic studies of the shoulder, bony thorax, lower extremity, vertebral column, cranial and facial bones.

Special Radiographic Procedures: PR: RTE 3549C or C.I. An introduction to Special Imaging Techniques in Radiology including vascular and nonvascular procedures.

Advanced Imaging Modalities: PR: RTE 3564 and CGS 1060 or C.I. A study of the physical principles and applications of Computer Tomography, Digital Imaging, Ultrasound, Magnetic Resonance Imaging and other specialized modalities.

Physics of Image Production: PR: College Physics II. Physics of Diagnostic Radiology, including radiation production, physical principles of generator operation and characteristics of electromagnetic radiation.

Clinical Education I: PR: RTE 3123C or C.I. Supervised clinical practice in radiographic procedures, radiation protection, patient care, equipment.

Clinical Education II: PR: RTE 3806 or C.I. Supervised clinical practice in performing radiographic or radiation therapy procedures with emphasis on competency evaluation of clinical practices.

Clinical Education III: PR: RTE 3816 or C.I. Supervised clinical practice in radiographic or radiation therapy procedures, with emphasis on competency evaluation of clinical practices.

Radiation Monitoring Practicum: Application of health physics principles through on the job experience at medical, governmental and/or industrial facilities under the direct supervision of a qualified expert.

Methods in Radiology Management: Concepts of Radiology department management, including principles, personnel management, evaluation and improvement techniques, budgeting, financial considerations and legal aspects, and JCAH quality assurance specifications.

Radiological Administrative Practice: A directed practice in the management of a Radiology department with application of theory and methodology.

Directed Study in Clinical Education: PR: EVT 3371 or EDG 4321 or C.I. Directed activity in classroom instruction in radiologic technology.

Radiobiology: PR: RTE 3387C. A study of the effects of ionizing radiation on biologic systems. The responses at the cellular and total organism level are investigated.

Quality Assurance: PR: RTE 3387C or C.I. Quality control evaluation of radiographic, fluoroscopic and tomographic imaging systems. Implementation procedures, equipment selection criteria and processing quality control are also addressed.
Anatomy for the Medical Imager: A study of the normal anatomical structures and interrelationships of structures as demonstrated in a radiographic and cross-sectional imaging reference.

Clinical Education V: PR: RTE 4876 or C.I. Advanced clinical practice in diagnostic radiology, radiation therapy, nuclear medicine, special procedures, and other diagnostic imaging.

Clinical Education IV: PR: C.I. Supervised clinical practice; emphasis on competency evaluation of routine radiographic examinations.

Clinical Externship in Specialized Imaging: PR: ARRT Eligibility. Provide the necessary clinical skills to produce diagnostic images using methods incorporated with computerized scanning and angiographic studies.

Foundations of Broadcasting: Nature of the media, the mechanics of operation, history, economics, programming, and internal and external control.

Broadcast Techniques: PR: RTV 3000. Introduction to audio production and multi-camera video production. Instruction in audio mixers, microphones, and tape recorders and TV studio production equipment (cameras, switchers, etc.)

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.

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.


Broadcast Newwriting: PR: Ability to type 30 wpm; Grammar Proficiency Examination. The study and practice of writing news for radio and television.

Advanced Broadcast Newwriting: PR: RTV 3300. The writing of indepth news items including documentaries, features, and investigative materials.

Broadcast Copywriting: PR: Ability to type 30 wpm; Grammar Proficiency Examination. Preparation of written commercial copy for radio and television and public service.

Television Practicum: PR: RTV 3200 and C.I. Primarily an activity course. Student will serve in some position of responsibility for UCF Weekly News or other TV activity. Can be repeated.


Broadcast Criticism: PR: RTV 3000 for RTV majors; English Grammar proficiency examination. Evaluation and criticism of past and present radio and television programs, policies, and critics. Concentration on the problem of criteria development.

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.

International Broadcasting: Comparative analysis of national broadcast systems. World broadcasting as a social, political and economic force.

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.

Regulation of Broadcasting: PR: RTV 3000. Federal, state, local and self-regulatory agencies and practices which govern electronic media.

Broadcast Management: PR: RTV 4700. Consideration of broadcast management problems in station operations at the local, regional, and national levels.

Elementary Russian Language and Civilization I: Designed to initiate the student to the major language skills: listening, speaking, reading, and writing.
RUS 1121 Elementary Russian Language and Civilization II: PR: RUS 1120 or equivalent. Continuation of RUS 1120
RUS 2210 Intensive Russian Conversation: PR: One year of Russian or equivalent. Practical use of the language leading toward fluency and correctness in speaking.
RUS 2230 Intermediate Russian Language and Civilization I: PR: RUS 1121 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.
RUS 2231 Intermediate Russian Language and Civilization II: PR: RUS 2230 or equivalent. Continuation of RUS 2230 with emphasis on Russian civilization.
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 4321 or C.I. Course objectives for a school curriculum and methods and materials.
SCE 5238 Inquiry in the Sciences: PR: Graduate standing or science certification. Teaching science by inquiry in the secondary school and development of inquiry lessons.
SED 3335 Speech Instruction Analysis: PR: EDG 4321 or C.I. Study of instructional programs in speech; objectives, materials, techniques, organization for instruction, evaluation procedures, current research.
SLS 2311 Overview of Selected Medical Careers: Introduction to medical careers in medicine, dentistry, veterinary medicine, osteopathic medicine, optometry, chiropractic medicine, podiatry, and pharmacy.
SOP 3724 The Psychology of Racial Prejudice: PR: PSY 2013. 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: PR: PSY 2013. 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.
SOW 3110 Assessing Individual Behavior: The development of social work skills in assessing individuals 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 and Community Resources: Study of social welfare, programs and services, including socio-cultural, political, economic and historical forces affecting changes in societal responses to human needs.
SOW 3300 Generalist Practice in Social Work: Study of social work functions, knowledge, values and skills. Development of ability to use a generalist model of practice.
SOW 3352
**Interpersonal Skills in Social Work Practice**: Simulated practice of interviewing, group leadership, written communication, and oral presentations, in consensual as well as conflictual contexts of social work.

SOW 3403
**Social Work Research**: Study of quantitative and qualitative methods of building knowledge for social work and the ethical use of research in professional practice.

SPA 3431
**Micro-Level Roles and Interventions in Social Work**: PR: SOW 3300, SOW 3352. Study and simulated practice of roles and tasks in systemic problem solving with individuals, families, and supportive and remedial groups.

SOW 3433
**Macro-Level Roles and Interventions in Social Work**: PR: SOW 3300, SOW 3352. Study and simulated practice of roles and tasks in systemic problem solving to obtain and improve social welfare resources within organizations and communities.

SOW 4381
**Agency Management**: Basic administrative practice including planning, staffing, delegating, managing and developing personnel, monitoring services, budgeting and fund raising.

SOW 4431
**Evaluating Social Work Practice and Service Programs**: PR: SYA 3301 or equivalent and SOW 3300. The study of systematic data collection and of measurement of change in individuals, families, groups, programs, and communities.

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 420 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 4602
**Social Work in Health Settings**: Study of social work roles, interventions, and issues related to helping patients in health settings.

SOW 4620
**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.

SOW 4644
**Social Services for the Elderly**: Development of interventive skills for obtaining, providing, and improving social services in behalf of elderly persons and their families.

SOW 4654
**Children's Services**: Study of societal responses to children's needs. Development of skills for preventing family breakdown, placing children in alternative care, and reuniting children with their families.

SPA 3000
**Detection and Prevention of Speech and Hearing Problems**: An elective course for non-majors. Live and videotaped demonstrations of speech and hearing cases. Specific suggestions for prevention.

SPA 3002
**Introduction to Communicative Disorders**: Etiology, symptoms, and methods of diagnosing and treating communicative disorders. For beginning and prospective majors in communicative disorders.

SPA 3050
**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 3002. An introduction to the anatomical, physiological, and physical elements underlying the communication process.

SPA 3112
**Basic Phonetics**: Physiological descriptions and visual notation of speech patterns and regional dialects.

SPA 3112L
**Basic Phonetics Laboratory**: Students will have practical experiences in transcription of normal and deviant speech.

SPA 3550
**Clinical Methods in Communicative Disorders**: PR: SPA 3002. An analysis of techniques and methods of planning and executing therapeutic programs for communicatively handicapped individuals.

SPA 3550L
**Clinical Methods in Communicative Disorders Laboratory**: Students will have practical experience in analysis of live and videotaped diagnosis and therapy sessions.

SPA 4011
**Fundamentals of Speech and Hearing Science**: Lectures and demonstrations in basic acoustics and speech acoustics.
SPA 4032 HLTH 3(3,0)
Audiology I: 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 4201 HLTH 3(3,0)

SPA 4201L HLTH 1(0,2)
Communicative Disorders: Articulation Laboratory: Students will have practical experience in diagnosis and treatment in articulation disorders.

SPA 4210 HLTH 4(3,1)

SPA 4222 HLTH 3(3,0)

SPA 4222L HLTH 1(0,2)
Nonorganic Speech Disorders Laboratory: Students will have practical experience in diagnosis and treatment in nonorganic speech disorders.

SPA 4251 HLTH 3(3,0)

SPA 4251L HLTH 1(0,2)
Organic Speech Disorders Laboratory: Students will have practical experience in observations of organic speech disorders.

SPA 4310 HLTH 3(3,0)
Audiology II: PR: SPA 4032. An overview of medical aspects of hearing loss, electrophysiological audiometry and other differential diagnostic testing.

SPA 4321 HLTH 4(4,0)

SPA 4402 HLTH 3(3,0)

SPA 4402L HLTH 1(0,2)
Communicative Disorders: Language Laboratory: Students will have practical experience in observations of organic speech disorders.

SPA 4412 HLTH 3(3,0)
Augmentative Communications Systems: PR: LIN 3710, SPA 4032. Students will learn the rudiments of nonverbal communication systems, for example, Bliss, Rebus, Manual Signing, Language Boards, and finger spelling.

SPA 4841 HLTH 1(1,1)
Practicum in Communicative Disorders.

SPA 5005 HLTH 3(3,0)
Survey of Communicative Disorders: A survey of speech, language, and hearing disorders for habilitative personnel and other interested professionals.

SPA 5120 HLTH 4(4,3)
Physiological Acoustics: PR: SPA 4032; Graduate status or C.I. Lectures, readings and experiments pertaining to the subjective reception of sound.

SPA 5225 HLTH 3(3,0)
Fluency Disorders: PR: Graduate status or C.I. Identification and evaluation of disorders of rhythm. Emphasis will be on methods of intervention in disorders of fluency.

SPA 5225L HLTH 1(0,2)
Fluency Disorders Laboratory: PR: Graduate status or C.I. Practical application of clinical skills in fluency disorders.

SPA 5307 HLTH 3(3,0)
Differential Diagnosis of Auditory Disorders: PR: SPA 4032; Graduate status or C.I. Clinical techniques in pure tone speech, acoustic impedance and electrophysiologic response audiometry.

SPA 5327 HLTH 4(4,0)
Aural Habilitation/Rehabilitation: PR: Graduate Status or C.I. Principles and procedures involved in speech and language acquisition management, utilization of residual hearing, speech reading and the use of hearing aids.

SPA 5553 HLTH 3(3,0)
Differential Diagnostic in Speech and Language: PR: SPA 6204, 6403, 6211, 5805. Administration and interpretation of evaluation techniques, including standardized tests, will be presented. Emphasis on techniques allowing for differential diagnosis of speech and language disorders.

SPA 5553L HLTH 1(0,4)
Differential Diagnosis in Speech and Language Laboratory: PR: SPA 6204, 6403, 6211, 5805. Assignment to diagnostic teams to apply the diagnostic techniques presented in SPA 5553. Experiences include test administration, interviewing, writing diagnostic reports, oral presentations.
SPA 5554  
Therapeutic Communication: PR: Graduate status or C.I. Practical interviewing and counselling in the area of communicative disorders.

SPA 5600  
Administration and Management of Communicative Disorders Programs: PR: SPA 3002. Methods and techniques for organization and administration of speech-language and hearing disorders in public school, hospital, rehabilitation center and private practice facilities.

SPA 5805  
Research in Communicative Disorders: PR: STA 4163, graduate status or C.I. Introduces the student to empirical research in the area of communicative disorders. Emphasis is on hypothesis testing, methodology, analysis and interpretation of results.

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 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: Grammar 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.

SPA 5200  
Evolution of Communication Theory: General Survey: Major communication trends from classical era to the present. Comparison of Aristotelian and non-Aristotelian rhetorics. Contributions of principal figures will be discussed.

SPN 1120  
Elementary Spanish Language and Civilization I: Designed to initiate the student to the major language skills: listening, speaking, reading, and writing.

SPN 1121  
Elementary Spanish Language and Civilization II: PR: SPN 1120 or equivalent. Continuation of SPN 1120.

SPN 1170  
Elementary Spanish Study Abroad: Elementary Spanish language and civilization taught in the native environment.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>PR Requirements</th>
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</thead>
<tbody>
<tr>
<td>SPN 2230</td>
<td>Intermediate Spanish Language and Civilization I: PR: SPN 1121 or equivalent.</td>
<td>Designed to continue development of language skills at the intermediate level.</td>
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<td>AS 4(4,1)</td>
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<tr>
<td>SPN 2231</td>
<td>Intermediate Spanish Language and Civilization II: PR: SPN 2230 or equivalent.</td>
<td>Continuation of SPN 2230 with emphasis on Spanish civilization.</td>
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<td>AS 4(4,1)</td>
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<tr>
<td>SPN 2240</td>
<td>Intensive Spanish Conversation: PR: One year of Spanish or equivalent.</td>
<td>Practical use of the language leading toward fluency and correctness in speaking.</td>
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<td>AS 4(4,0)</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPN 3241</td>
<td>Spanish Conversation: PR: SPN 2231 or equivalent.</td>
<td>Development of skills in conversation and comprehension through practice.</td>
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<td>This course may be repeated for credit. When repeated, credit will apply to</td>
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<td>general electives only.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPN 3420</td>
<td>Spanish Composition: PR: SPN 2231 or equivalent.</td>
<td>Development of skills in composition. This course may be repeated for credit.</td>
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<td>When repeated, credit will apply to general electives only.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPN 4410</td>
<td>Advanced Spanish Conversation: PR: SPN 3241.</td>
<td>Advanced conversation on directed topics from various disciplines: Literature,</td>
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<td>art, psychology, philosophy, music, business and the sciences.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPN 4420</td>
<td>Advanced Spanish Composition: PR: SPN 3420.</td>
<td>Readings and written imitations of modern literary styles in the form of</td>
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<td>themes, sketches, poems and original stories.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPN 4450</td>
<td>Stylistics: PR: SPN 3420 or equivalent. An intense study of textual criticism.</td>
<td>An examination of the relationship between language and literature. explications</td>
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<td>and linguistic analysis of literary texts.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPN 4510</td>
<td>Spanish Civilization and Culture: PR: SPN 3241 or SPN 3420.</td>
<td>A study of Spanish civilization and culture from Pre-Roman times to the present.</td>
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<td>Conducted in Spanish.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPN 4520</td>
<td>Latin American Civilization and Culture: PR: SPN 3241 or SPN 3420.</td>
<td>An overview of the currents in Latin American culture and civilization from the</td>
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<td>Pre-Columbian period to the present. Conducted in Spanish.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPN 4600</td>
<td>Spanish-American Syntax: The course examines the Spanish language from its</td>
<td>Examines the Spanish language from its beginning to the present with special</td>
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<td>emphasis as it is written and spoken in Latin America and the U.S.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPW 3100</td>
<td>Survey of Spanish Literature I: PR: SPN 2231 or equivalent.</td>
<td>Main literary currents and works from the Middle Ages through the Eighteenth</td>
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<td>Century.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPW 3101</td>
<td>Survey of Spanish Literature II: PR: SPN 2231 or equivalent.</td>
<td>Main literary currents and works of the Nineteenth Century to the present.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPW 3130</td>
<td>Survey of Latin-American Literature I: PR: SPN 2231 or equivalent.</td>
<td>Main literary currents and works from the colonial period to the Nineteenth</td>
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<td>Century Romanticism.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPW 3131</td>
<td>Survey of Latin-American Literature II: PR: SPN 2231 or equivalent.</td>
<td>Main literary currents and works of the Nineteenth Century from the Realism to</td>
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<td>the present.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPW 3370</td>
<td>Spanish Short Story: PR: SPN 2231 or equivalent.</td>
<td>A study of representative 19th and 20th Century Spanish short stories and their</td>
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<td>authors.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPW 4310</td>
<td>Golden Age Drama: PR: SPW 3100.</td>
<td>A study of the drama of the Golden Age with special emphasis on Lope, Tirso,</td>
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<td>Calderon, Calderon. The controversies of the Spanish theatre and its influence</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPW 4460</td>
<td>Nineteenth Century Spanish Literature: PR: SPW 3101.</td>
<td>A study of the representative authors and works in Spanish Romanticism, Realism</td>
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<td>and Naturalism.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPW 4480</td>
<td>Twentieth Century Spanish Literature: PR: SPW 3101.</td>
<td>A study of the representative authors and works in drama and the novel.</td>
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<td>AS 3(3,0)</td>
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<tr>
<td>SPW 4601</td>
<td>Cervantes II: PR: SPW 3100. Don Quixote (Part II).</td>
<td>AS 3(3,0)</td>
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<td>AS 3(3,0)</td>
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<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Prerequisites</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>SSE 3312</td>
<td>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.</td>
<td>PR: Admission to Phase II or C.I.</td>
<td>4(4,0)</td>
</tr>
<tr>
<td>SSE 3333</td>
<td>Social Science Instructional Analysis: PR: EDG 4321 or C.I. Study of instructional programs in Social Sciences; objectives; materials; techniques; organization of instruction; evaluation procedures; current research.</td>
<td>PR: EDG 4321 or C.I.</td>
<td>4(3,2)</td>
</tr>
<tr>
<td>STA 2014</td>
<td>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.</td>
<td>PR: Regular Certificate or C.I.</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>STA 3023</td>
<td>Principles of Statistics: Introduction to statistical concepts in modern society. Basic principles, frequency distributions, measures of location and dispersion, probability, statistical inference.</td>
<td>PR: STA 4163 or STA 4164</td>
<td>3(3,0)</td>
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<tr>
<td>STA 3032</td>
<td>Statistical Methods I: PR: MAC 1104 or MGF 1203. First methods course introducing probability and statistical inference including estimation, hypothesis testing, binomial and normal distributions, sample size.</td>
<td>PR: STA 4163 or STA 4164</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>STA 4095</td>
<td>Probability and Statistics for Engineers: PR: MAC 3312 and CGS 3422. 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.</td>
<td>PR: MAC 3312 and CGS 3422</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>STA 4102</td>
<td>Statistical Problem Solving: PR: STA 4164. Course presents approaches to solving a wide variety of statistical problems. Emphasizes assumptions, parametric and nonparametric approaches to problems in all areas of statistics.</td>
<td>PR: STA 4164</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>STA 4163</td>
<td>Computer Processing of Statistical Data: PR: STA 4163 and knowledge of a programming language. Use of packages such as SAS, BMD, SPSS for data validation, description and analysis of data, regression and analysis of variance and covariance.</td>
<td>PR: STA 4163</td>
<td>3(3,0)</td>
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<tr>
<td>STA 4164</td>
<td>Statistical Methods II: PR: STA 3023 or STA 3032. Methods of analyzing data, statistical models, estimation, tests of hypotheses, regression and correlation, an introduction to analysis of variance, chi-square, and nonparametric methods.</td>
<td>PR: STA 3023 or STA 3032</td>
<td>3(3,0)</td>
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<tr>
<td>STA 4165</td>
<td>Statistical Methods III: PR: STA 4163. A continuation of STA 4163 including further study of regression, analysis of variance and covariance and multiple comparisons.</td>
<td>PR: STA 4163</td>
<td>3(3,0)</td>
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<tr>
<td>STA 4173</td>
<td>Biostatistical Methods: CR: STA 4163. Introduction to the application of statistical principles and methods to problems in medical, biological and health sciences.</td>
<td>CR: STA 4163</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>STA 4222</td>
<td>Sample Survey Methods: PR: STA 3023 or STA 3032. Constructing and analyzing survey designs. Sampling and non-sampling errors. Simple random, stratified, systematic, and multistage sampling. Methods of estimation.</td>
<td>PR: STA 3023 or STA 3032</td>
<td>3(3,0)</td>
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<tr>
<td>STA 4321</td>
<td>Statistical Theory I: PR: STA 3023 or STA 3032; CR: MAC 3313. Probability axioms, discrete and continuous sample spaces, conditional probability, independence, one-dimensional random variables, moment generating functions, transformations, jointly distributed random variables.</td>
<td>PR: STA 3023 or STA 3032</td>
<td>3(3,0)</td>
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<tr>
<td>STA 4322</td>
<td>Statistical Theory II: PR: STA 4321. Conditional distributions, sums of random variables, Chebyshev’s inequality, central limit theorem, method of moments, maximum likelihood, confidence intervals, hypothesis testing, transformations of two random variables.</td>
<td>PR: STA 4321</td>
<td>3(3,0)</td>
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<tr>
<td>STA 4502</td>
<td>Nonparametric Statistical Methods: PR: STA 3023 or STA 3032. Distribution-free tests on location and dispersion, goodness of fit tests, tests of independence, measures of association, nonparametric analysis of variance.</td>
<td>PR: STA 3023 or STA 3032</td>
<td>3(3,0)</td>
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<tr>
<td>STA 4684</td>
<td>Statistical Quality Control: PR: STA 3023 or STA 3032. Statistical concepts and methods applied to the control of quality of manufactured products.</td>
<td>PR: STA 3023 or STA 3032</td>
<td>3(3,0)</td>
</tr>
<tr>
<td>STA 5156</td>
<td>Probability and Statistics for Engineers: PR: STA 3032 or equivalent. Theory and applications of discrete and continuous random variables, hypothesis tests, confidence intervals, regression analysis and correlation.</td>
<td>PR: STA 3032 or equivalent</td>
<td>3(3,0)</td>
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<tr>
<td>STA 5205</td>
<td>Experimental Design and Response Surface Methodology: PR: STA 4164 or STA 5206. Construction and analysis of designs for experimental investigations. Concepts of blocking, randomization, and replication. Confounding in factorial experiments, incomplete block designs. Response surface methodology.</td>
<td>PR: STA 4164 or STA 5206</td>
<td>3(3,0)</td>
</tr>
</tbody>
</table>
STA 5206
Statistical Analysis: PR: STA 3023; not open to students who have completed STA 4164. Data analysis; statistical models; estimation; tests of hypotheses; analysis of variance, covariance and multiple comparisons; regression and nonparametric methods.

STA 5505
Categorical Data Methods: PR: STA 4163 or STA 5206. Considers discrete probability distributions, contingency tables, measures of association and advanced methods including loglinear modeling, logistic regression, McNemar’s Test, Mantel-Haenszel test.

STA 5825

SUR 3101C
Surveying: PR: MAC 3311 and Junior standing. Theory and field practice in surveying measurements, and the reduction and adjustment of field data.

SYA 3110
The Development of Social Thought: PR: SYG 2000. An overview of theories concerning the nature of man as a "social being." The nature of society from the beginnings of the scientific study of man’s life to World War II.

SYA 3120
Modern Sociological Thought: PR SYG 2000. A study of major European and American contributors to modern sociology since World War II.

SYA 3300

SYA 3301

SYA 3400
Research Methods and Statistics: PR: SYG 2000 and one other sociology course.

SYA 3450
Social Research Practicum: PR: SYA 4450 and C.I. Application of advanced research designs and data analysis techniques to assigned projects, with an emphasis on data management.

SYA 4450
Data analysis: PR SYA 3300 and STA 2014. Advanced social research design and analytical skills. Emphasis on social data management, various modes of social data analysis, interpretation, integration, presentation and report writing.

SYA 4650

SYD 3410

SYD 3700
Race and Ethnic Minorities in the United States: Theoretical analysis of the emergence, maintenance and disruption of patterns of racial and ethnic stratification.

SYD 3800
Sex Roles in Modern Society: The traditional and changing roles of women and men viewed in a sociological perspective.

SYD 4020
Population: Concerned with the study of human population, its distribution, composition and changes.

SYD 4320
Soviet Sociology: Analysis of relations of various Soviet institutions such as education, religion, and the Communist party to society; class structure and social problems.

SYD 4360
General Sociology: Introduction to the sociological perspective and the scientific study of sociological concepts, theories, processes, and methods used in understanding contemporary human behavior in group interaction.

SYG 3010
Social Problems: Analysis of major social problems such as mental disorders, sexual deviance, racial discrimination, poverty, community disorganization, and violence.

SYG 3000

SYG 3360
Social Organization and Human Relations: Analysis of business, government and industrial organizations. Topics include organizational theory, social systems, social structure, effects of technology, motivation, leadership, decision making, and human relations.
SYO 3410 Sociology of Mental Illness: A sociological examination of mental illness as a social problem; legal aspects of mental illness, and the mental health professions.

SYO 3530 Social Stratification: PR: SYG 2000. Study of class, status and power, cultural variations in stratification systems; patterns of mobility and change.

SYO 4100 The Family: PR: SYG 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.

SYO 4250 Sociology of Education: PR: SYG 2000. 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.

SYO 4300 Political Sociology: Sociological analysis of political and parapolitical groups; socioeconomic variable of voting behavior, power elites; societies and systems of government.

SYO 4400 Medical Sociology: Analysis of patient beliefs and behavior, health practitioners, the social organization of hospitals and health services, contemporary problems in the delivery of health care.

SYP 3300 Collective Behavior: PR: SYG 2000. Analysis of relatively unstructured social situations, such as mobs, crowds, etc. as well as more structured forms of collective behavior such as social movements.


SYP 3510 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.

SYP 3520 Criminology: Chief causes of anti-social behavior and current methods of prevention and reform. Effects of heredity and environment, prevalence of delinquency and crime, penal institutions.

SYP 3530 Juvenile Delinquency: Types of delinquency behavior found among juveniles; possible causes and ways society attempts to treat the various forms of delinquency.

SYP 3540 Sociology and Law: The relationship between law and society, including the functions of law and its organization, social and economic consequences, jury selection, and moder trends.

SYP 3551 Sociology of Alcoholism: Introduction to the nature of alcoholism and review of its impact on society.

SYP 3560 Sociology and Sport: Utilization of sociological concepts and theories to investigate sport as a social institution. Includes subjects of racism, sexism, drug abuse, violence, and current issues of sport.


SYP 4550 Sociology of Drug Abuse: Analysis of the socio-culture elements of the drug culture.

SYP 4730 Sociology of Aging: Sociological aspects of aging in America.

TAX 3000 Personal Income Tax: A study of federal income tax designated to convey basic tax concepts and skills related to the individual taxpayer. Not open to accounting majors.

TAX 4001 Federal Income Tax I: PR: Junior standing and ACG 3113 with a grade of "C" or better or C.I. Concepts and methods of determining taxable income of individuals, and selected topics.

TAX 5015 Federal Income Tax II: PR: ACG 4123, TAX 4001 and meet school admission requirements. Concepts and methods of determining taxable income for partnerships and corporations; and selected topics.


THE 2925 Theatre Practicum I: Open to all students interested in participating in productions of University Theatre. May be repeated for credit. Primarily an activity course.

THE 3112 Theatre History I: Development of theatre art from the earliest times through the seventeenth century.
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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>THE 3113</td>
<td>Theatre History II: Development of theatre art from the seventeenth century to the twentieth century.</td>
<td>AS 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>AS 3(3,0)</td>
</tr>
<tr>
<td>THE 3260</td>
<td>Theatrical Costume History and Design: PR: TPA 2211. History and theory of theatrical costumes.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>THE 3305</td>
<td>Drama Analysis: A study of a method of analysis for dramatic scripts and an intensive examination of selected modern and period play scripts.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>THE 3370</td>
<td>Modern Drama: Drama from Ibsen to Theatre of the Absurd, with reference to developing production styles and dramatic movements.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>THE 3975</td>
<td>Theatre Practicum II: PR: THE 2975 and C.I. Primarily an activity course. Student will serve in some position of responsibility in production. May be repeated for credit.</td>
<td>AS 2(0,10)</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>AS 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>AS 3(2,2)</td>
</tr>
<tr>
<td>THE 4760C</td>
<td>Theatre for the Schools: Designed to aid the student in teaching theatre. Philosophy, methodology, objectives, planning, evaluative techniques, and production procedures relative to performance.</td>
<td>AS 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>AS 3(2,2)</td>
</tr>
<tr>
<td>TPA 2210</td>
<td>Technical Theatre Production I: History, theory, and practice of technical theatre production. Service on crew as required.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>TPA 2211</td>
<td>Technical Theatre Production II: A continuation of TPA 2210 (Service on crew as required).</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>TPA 3060</td>
<td>Scene Design: PR: THE 1020, TPA 2210. Study of and practice of scene design; perspective drawing, fundamentals of design, and techniques of scene painting.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>TPA 3081</td>
<td>Scene Painting: PR: TPA 3060 or C.I. Study of the art and craft of painting for the theatre. Research into period designs and execution of examples of a variety of styles.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>TPA 3220</td>
<td>Stage Lighting: PR: THE 1020 and TPA 2210 or C.I. Study of stage lighting techniques, practices, and equipment. (Service on light crew as required).</td>
<td>AS 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>AS 3(2,2)</td>
</tr>
<tr>
<td>TPA 3230</td>
<td>Theatrical Costume Construction and Technique: A continuation of THE 3260 in which emphasis is placed on design and construction, planning, and execution of costumes. (Service on crew as required.)</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>TPA 3250</td>
<td>Make-up Technique: Analysis and design of stage make-up.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>TPA 3400</td>
<td>Theatre Management: Study of the development, organization, management, funding, and promotion of Theatre programs.</td>
<td>AS 3(3,0)</td>
</tr>
<tr>
<td>TPA 4061</td>
<td>Advanced Design: PR: TPA 3060, 3221 or THE 3260. Continuation of design series with emphasis on planning and executing scenery, lighting and/or costume designs.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>TPP 2110</td>
<td>Acting I: Emphasis on movement, motivation, voice, characterizational techniques, makeup, and other basic requirements for acting.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>TPP 3111</td>
<td>Acting II: PR: TPP 2110 or C.I. Continuation of TPP 2110. May be repeated for credit.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>TPP 3130</td>
<td>Classical Mime: PR: TPP 2110 or C.I. Introduction to the art of mime with an emphasis on mask work and illusion.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>TPP 3310</td>
<td>Directing I: PR: TPP 2110 or C.I. Fundamental principles of theatrical directing. Each student to direct short scenes and one-act play for laboratory presentation and critique.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>TPP 3700</td>
<td>Stage Diction: The role of the voice in the art of acting through practice in vocal characterization.</td>
<td>AS 3(2,2)</td>
</tr>
<tr>
<td>Course Code</td>
<td>Title</td>
<td>Description</td>
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</tr>
<tr>
<td>TPP 4150</td>
<td>Scene Study and Character Development</td>
<td>PR: C.I. The study, development and training of performance skills with an emphasis on scene study and character development.</td>
</tr>
<tr>
<td>TPP 4220</td>
<td>Audition Techniques</td>
<td>Preparation of audition material for musical, dinner, outdoor and repertory theatres, as well as graduate schools. Emphasis on resumes and unions.</td>
</tr>
<tr>
<td>TPP 4260</td>
<td>Acting II: PR: C.I. Entry by audition</td>
<td>Advanced study of the problems and techniques of auditioning, creating and developing subtext, and acting in specialized forms.</td>
</tr>
<tr>
<td>TPP 4311</td>
<td>Directing II: PR: C.I. Techniques of period styles directing</td>
<td>Cuttings from Greek theatre, Shakespeare, Restoration, Experimental and Musical theatre will be presented and criticized in a laboratory format.</td>
</tr>
<tr>
<td>TTE 4004</td>
<td>Transportation Engineering</td>
<td>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.</td>
</tr>
<tr>
<td>TTE 4501</td>
<td>Urban Systems Design</td>
<td>PR: TTE 4004. Project course on design of transportation and urban systems using engineering design methodologies.</td>
</tr>
<tr>
<td>TTE 5204</td>
<td>Traffic Engineering</td>
<td>PR: STA 3032. Study of operator and vehicle characteristics, and design for street capacity, signals, signs and markings.</td>
</tr>
<tr>
<td>TTE 5720</td>
<td>Geometric Designs of Transportation Systems</td>
<td>PR: TTE 4004. Study of geometric and construction design elements in the engineering of transportation systems.</td>
</tr>
<tr>
<td>URP 4026</td>
<td>Community Planning and Development</td>
<td>Contemporary planning concepts, roles of the planning practitioner, and the influence of the political, economic, and social environments on public and quasi-public agencies.</td>
</tr>
<tr>
<td>VIC 3000</td>
<td>Visual Communication</td>
<td>A study of the visual system of man, and the influences of the visual media on modern society.</td>
</tr>
<tr>
<td>ZOO 1020</td>
<td>Biology of Man</td>
<td>An introduction to man as a member of the animal kingdom; his taxonomy, anatomy, growth, reproduction, development, heredity, evolution, behavior, diseases, and population growth.</td>
</tr>
<tr>
<td>ZOO 2010C</td>
<td>General Zoology</td>
<td>PR: High school biology or C.I. Introduction to zoology; structure, function and representative groups; current concepts in zoological sciences.</td>
</tr>
<tr>
<td>ZOO 3303C</td>
<td>Vertebrate Zoology</td>
<td>PR: 6 hours of zoology or C.I. Evolution and classification followed by an introduction to vertebrate ecology, natural history and behavior.</td>
</tr>
<tr>
<td>ZOO 3713C</td>
<td>Comparative Vertebrate Anatomy</td>
<td>PR: ZOO 2010C. The vertebrate animals; relationship of organs and systems; and their phylogenetic significance.</td>
</tr>
<tr>
<td>ZOO 3733C</td>
<td>Human Anatomy</td>
<td>PR: BSC 2010C or equivalent. Structure of the human body. Not open to students in ZOO 3713C or equivalent.</td>
</tr>
<tr>
<td>ZOO 4203C</td>
<td>Invertebrate Zoology</td>
<td>PR: 8 hours of biology or C.I. Taxonomy, anatomy and ecology of the invertebrate animals.</td>
</tr>
<tr>
<td>ZOO 4753C</td>
<td>Vertebrate Histology</td>
<td>PR: BSC 2010C and ZOO 2010C. Microanatomical detail plus appropriate developmental and functional considerations of major cell types, primary tissues, organs and organ systems. Survey of modern animal-tissue microtechnique.</td>
</tr>
<tr>
<td>ZOO 4880C</td>
<td>Fisheries Management</td>
<td>PR: ZOO 2010C or C.I. Fisheries Management of freshwater environments to include identification, sampling methods, framing and hatchery operations, propagation and population estimates.</td>
</tr>
<tr>
<td>ZOO 5456C</td>
<td>Ichthyology</td>
<td>PR: ZOO 3303C or C.I. Introduction to the biology of the fishes, their classification, evolution and life histories.</td>
</tr>
<tr>
<td>ZOO 5463C</td>
<td>Herpetology</td>
<td>PR: 6 hours of zoology or C.I. Introduction to the biology of the amphibians and reptiles, their classification, evolution and life histories.</td>
</tr>
<tr>
<td>ZOO 5475C</td>
<td>Ornithology</td>
<td>PR: 6 hours of zoology or C.I. Introduction to the biology of birds, their classification, evolution and life histories.</td>
</tr>
</tbody>
</table>
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 5745C  AS 4(3,2)
Essentials of Neuroanatomy: PR: Human/Comparative Anatomy, or Human/Animal Physiology or C.I. Fundamental concepts of both morphological and functional organization of the nervous system. Primary emphasis on human structure.

ZOO 5815  AS 3(3,0)
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.

ABBOTT, DAVID W., Professor of Psychology
(1968), B.A., M.S., Ph.D. (University of Massachusetts)

ABEL, EILEEN M., Assistant Professor of Social Work
(1978), A.B., M.S.W. (University of Maryland)

ABRAMOWITZ, BENJAMIN L., Visiting Instructor of Management

ACIERNO, LOUIS J., Professor of Cardiopulmonary Sciences
(1981), B.S., M.D. (Georgetown University)

ADAMS, LASCELLES, Visiting Instructor of Computer Science
(1985), B.S., M.B.A., M.S. (University of Central Florida)

ADICKS, RICHARD R., Professor of English
(1968), B.A.E., M.A., Ph.D. (Tulane University)

ALLEN, WILLIAM D., Professor of Sociology
(1969), B.S., M.S.W., Ph.D. (Ohio State University)

ALSASKA, Y. A., Assistant Professor of Engineering
(1986), B.S., M.S. Ph.D. (University of Florida)

ANDERSON, B. BETTY, Professor of Education
(1968), B.A., M.A., Ed.D. (University of Maryland)

ANDERSON, HENRY R., Director, School of Accounting and Professor of Accounting

ANDERSON, LOREN A., Associate Professor of Engineering
(1982), B.S., M.S., Ph.D. (University of Dayton), P.E. (Florida and Ohio)

ANDREWS, LARRY C., Professor of Mathematics
(1972), B.S., M.S., Ph.D. (Michigan State University)

ANTHONY, JOBY M., Associate Professor of Mathematics
(1970), B.S., M.A.M., Ph.D. (North Carolina State University)

ARMSTRONG, JAMES F., Assistant Professor of Military Science
(1985), B.S. (Indiana State University)

ARMSTRONG, JOHN H., Assistant Dean of College of Education and Associate Professor of Education
(1970), B.S., M.S., Ed.D. (Oklahoma State University)

ARMSTRONG, LEE H., Assistant Dean of College of Arts and Sciences and Associate Professor of Mathematics
(1968), B.A., M.S., Ph.D. (Florida State University)

ARNOLD, ROBERT L., Director of Instructional Resources and Professor of Communication
(1968), B.A., M.A., Ph.D. (Ohio University)

ASHLEY, ROBERT A., Instructor of Hospitality Management
(1984), B.S., M.S. (Florida International University)

ATKINSON, STANLEY M., Associate Professor of Finance

ASTRO, RICHARD, Provost and Vice President of Academic Affairs and Professor of English
(1986), B.A., M.A., Ph.D., (University of Washington)

AVERY, CLARENCE G., Professor of Accounting

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BAKER, GRAEIM L., Professor of Chemistry
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BALADO, CARL, Assistant Professor of Education
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BARR, CAROL J., Assistant Professor of Medical Record Administration
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(1968), B.S., M.S. (Adelphi University)

BARSCH, KARL-HEINRICH, Associate Professor of Foreign Languages
(1977), B.A., M.A., Ph.D. (University of Colorado)

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(1987) B.S., M.S., Ph.D. (University of Michigan)

BASSIOUNI, MOSTAFA, Assistant Professor of Computer Science
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BECK, BARRY F., Director, Florida Sinkhole Research Institute
(1983), B.S., M.S., Ph.D. (Rice University), P. Geol. (Georgia)

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BECKER, DONALD C., Assistant Professor of Public Service Administration
(1976), B.A., M.Ed. (Wayne State University)

BECKER, STEPHEN, Distinguished Lecturer in English
(1986), B.A. (Harvard College)

BELKERDID, MADJID A., Assistant Professor of Engineering
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BELL, MARTHA SCOTT, Assistant Professor of Education

BENSON, CYNTHIA, Visiting Instructor of Political Science
(1985), B.S., M.A. (Ohio University)

BERGNER, JOHN F., JR., Professor of Health Sciences
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BERRINGER, ORVILLE M., Preprofessional Coordinator and Professor of Biological Sciences
(1981), B.S., M.S., Ph.D. (University of Oregon)

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BERRY, WALDRON, Professor of Management

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BIRAIMAH, KAREN L., Assistant Professor of Education

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BISHOP, PATRICIA J., Associate Professor of Engineering
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BLAU, BURTON I., Associate Professor of Psychology
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BLEDSOE, CAROL C., Instructor in Communication
(1970), B.S., M.A. (University of Oklahoma)

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BLOC, DAVID L., Director, Florida Solar Energy Center and Professor of Engineering
(1968), B.S., M.S., Ph.D. (Virginia Polytechnic Institute), P.E. (Florida)

BLUME, DELORYS M., Associate Professor of Education
BOGUMIL, WALTER A., JR., Associate Professor of Management (1972), B.S., M.B.A., Ph.D. (University of Georgia)

BOLEMON, JAY S., Associate Professor of Physics (1968), B.S., Ph.D. (University of South Carolina)

BOLLET, ROBERT M., Assistant Professor of Education (1973), B.S., M.S., Ed.D. (Ball State University)

BOLTE, JOHN R., Vice President, Administration and Finance and Professor of Physics (1968), B.A., M.A., M.S., Ph.D. (State University of Iowa)

BOREMAN, GLENN D., Assistant Professor of Engineering (1984), B.S., M.S., Ph.D. (University of Arizona), P.E. (Florida)

BOSTON, RALPH C., Director of Community College Relations (1967), B.S., Ed.M. (University of Buffalo)

BOYTE, JUDITH P., Director, Office of Academic Support and Information Services (1984), B.A., M.P.A. (University of Central Florida)

BOZEMAN, WILLIAM C., Professor of Education (1985), B.A., M.Ed., Ph.D. (University of Wisconsin)

BRAIN, PRISCILLA V., Instructor in English (1984), B.A., M.A. (University of Central Florida)

BRAUN, BRADLEY M., Assistant Professor of Economics (1986), B.S., M.A. (Tulane University)

BRENNAN, DAVID C., Assistant Professor of Public Service Administration (1983), B.S., J.D. (University of Florida)

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COLOBURN, TREvor, President of the University and Professor of History (1978), B.A., A.M., M.A., Ph.D. (The Johns Hopkins University)

COLBY, PETER W., Associate Professor of Public Administration (1985), B.A., Ph.D. (Brandeis University)

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CONN, JEFFREY, Visiting Lecturer of Physics (1985), B.S., M.A. (Wayne State University)

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COOK, IDA J., Associate Professor of Sociology (1976), B.A., M.S., Ph.D. (North Carolina State University)

COOK, KATHY S., Assistant Professor of Public Service Administration (1983), B.A., J.D. (University of Florida)

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CROCKETT, BETH BARNES, Assistant Professor of English
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CROCKETT, JOHN A., Assistant Professor of Education

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(1969), B.S., M.S., Ph.D. (North Carolina State University)

CUTCHINS, CONSTANCE E., Instructor in Statistics
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DEANE, STEPHEN P., Assistant Professor of Accounting
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DAVIS, DUANE L., Associate Professor of Marketing

DAVIS, ROBERT H., Associate Professor of Communication
(1977), B.A., M.A., Ph.D. (Ohio State University)

DAVISON, DONALD, Assistant Professor of Political Science
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DAY, A. EDWARD, Assistant Professor of Economics
(1980), B.A., M.A., M.S., Ph.D. (Purdue University)

DEANE, PAUL D., Assistant Professor of English
(1986), B.A., M.A., Ph.D. (University of Chicago)

DEBNATH, LOKENATH, Chair, Department of Mathematics and
Professor of Mathematics
(1983), B.S., M.S., Ph.D., D.I.C., Ph.D. (University of London)

DEBO, JOHN C., Assistant Professor of Engineering Technology
(1979), B.S.E.E., M.Ed., M.S.E. (University Of Central Florida), P.E.
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DEES, DAVID R., Assistant Dean, Undergraduate Studies and Associate
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BAZEMORE, NORRIS, Assistant University Librarian
(1984), B.A., M.A., M.L.S. (University of South Carolina)

BAZZO, ELAINE, Associate University Librarian
(1972), B.A., M.S.L.S. (Florida State University)

CRENSHAW, TENA L., University Librarian
(1960), B.S., M.L.A. (University of Oklahoma)

CUBBERLEY, CAROL W., Head, Acquisitions and Collection Development and University Librarian

DAVIDOFF, MARCIA, University Librarian
(1980), B.A., M.S.L.S. (State University of New York)

FEINBERG, DAVID, Assistant University Librarian
(1984), A.B., M.A., M.S.L.S. (University of Tennessee)

GROVDAHL, ELBA, Associate University Librarian
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HARD, MARY HELEN, Head, Serials Department and Associate University Librarian
(1973), B.A., M.S. (University of Illinois)

Hudson, Phyllis J., University Librarian
(1972), B.A., M.S.L.S. (University of Illinois)

LaBRAKE, Orlyn B., Assistant Director of Libraries
(1977), B.A., M.L.S. (State University of New York at Albany)

LEE, CHANG C., Head, Circulation Department and University Librarian
(1983), L.L.B., M.S., Ph.D. (Florida State University)

Lloyd, Lucille, Associate University Librarian
(1971), B.A., M.A. (University of South Florida)

Mahar, Cheryl B., Associate University Librarian
(1977), B.A., M.L.S. (Florida State University)

PFARRER, THEODORE R., Associate University Librarian
(1976), B.S., M.L.S., Ad.M.L.S. (Florida State University)

ROSSI, PETER, Head, Cataloging Department and Associate University Librarian
(1973), A.B., M.L.S. (State University of New York at Genesco)

Scharf, Margaret K., Assistant University Librarian

Snow, Marilyn, Associate University Librarian
(1984), B.A., M.L.S. (George Peabody College)

ST. CLAIR, NORBERT, Associate University Librarian
(1968), B.M.S., B.A., M.L.S. (Western Michigan)

STILLMAN, JUNE S., Head, Reference Department and University Librarian
(1968), B.A.L.S., M.A. (Florida State University)

WARD, JEANETTE, Associate University Librarian
(1984), B.S., M.L.S. (Rutgers University)
EMERITUS

WALKER, LYNN W.
(1967), B.A., M.A. (Florida State University)
Director of Libraries Emeritus

FACULTY WITH EMERITUS STATUS

BARR-JOHNSON, VIRGINIA
(1971), B.A., M.Ed., Ph.D. (Florida State University)
Professor Emeritus of Education

BROWNE, ROLAND A.
(1968), B.A.M.A., C.E.F. (Queen's University, Canada)
Professor Emeritus of English

COMISH, NEWEL W.
(1968), B.S., M.S., Ph.D. (Ohio State University)
Professor Emeritus of Management

CRAIG, ALBERT
(1970), B.S., M.A., Ed.D. (Florida State University)
Professor Emeritus of Education

ERICKSON, ERNEST E.
(1969), B.E.E., M.S.E., Ph.D. (University of Florida), P.E. (Florida)
Professor Emeritus of Engineering

FOWLER, EARL C.
Professor Emeritus of Education

HUBLER, J. W.
(1967), B.S.C.E., C.E., M.S.E., M.S.C.E. (Yale University), D. Eng. S. (Hon.) (University of Central Florida) P.E. (Florida and 18 other states)
Professor Emeritus of Engineering Technology

LYTLE, ERNEST J.
(1968), B.S., M.A., Ph.D. (University of Florida)
Professor Emeritus of Mathematical Sciences

McLELLON, WALDRON M.
(1969), B.S., B.C.E., M.C.E., M.S. (Physics), M.S. (Env.Engr.), Ph.D. (Rensselaer Polytechnic Institute)
Professor Emeritus of Engineering

MILLICAN, CHARLES N.
(1965), B.S., M.A., Ph.D. (University of Florida)
President Emeritus

OSTLE, BERNARD
(1967), B.A., M.A., Ph.D. (Iowa State University)
Professor Emeritus of Statistics

REIDENBACH, RICHARD C.
(1970), B.A., M.S., Ph.D. (St. Louis University)
Professor Emeritus of Management

WRIGHT, BURTON
(1970), B.S., M.S., Ph.D. (Florida State University)
Professor Emeritus of Sociology

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
December, 1979 | Joseph D. Duffey, Doctor of Humane Letters
August, 1980  Howard Phillips (Posthumous), Doctor of Public Service
August, 1980  Thelma Dudley, Doctor of Humanities
December, 1981  Gene Burns, Master of Letters
April, 1982  John, Ferdinand, and Andrew Duda, Doctor of Agricultural Service
April, 1982  Robert J. Whalen, Doctor of Engineering Science
July, 1982  William E. Davis and Mary Jo Stroud Davis, Doctor of Public Service
December, 1982  Joseph A. Boyd, Doctor of Engineering Science
July, 1983  J. W. Hubler, Doctor of Engineering Science
December, 1984  Allan E. Gottlieb, Doctor of Laws
June, 1985  D. Robert Graham, Doctor of Public Service
June, 1985  Jerry Collins, Doctor of Public Service
June, 1985  George J. Becker, Jr., Doctor of Public Service
June, 1985  Walter O. Lowrie, Doctor of Engineering Science
June, 1985  William C. Schwartz, Doctor of Engineering Science

COURTESY APPOINTMENTS

ALBERT, JONATHON C., Clinical Faculty, Cardiopulmonary Sciences
RRT, B.S. (University of Central Florida)

ALEXANDER, GREGOR, Clinical Faculty, Cardiopulmonary Sciences
M.D. (Javeriana University)

ANDREWS, DEE H., Faculty Associate, Psychology
Ph.D. (Florida State University)

BAKER, NORTON M., Clinical Faculty, Health Sciences
M.D. (University of Alabama)

BAUSHER, MICHAEL G., Assistant Professor of Biological Sciences
B.S., M.S., Ph.D. (University of Florida)

BENEDETTO, MARCUS D., Clinical Faculty, Health Sciences
Ph.D. (Clayton University)

BRAND, JERRY I., Clinical Faculty, Health Sciences
MPH, M.D. (Chicago Medical School)

BRIDGES, WILLIAM D., Clinical Faculty, Cardiopulmonary Sciences
RRT, B.S. (University of Central Florida)

BROWN, ASHMUN, Clinical Faculty, Health Sciences
J.D. (University of Michigan)

CAPRAUN, LYNN W., Clinical Faculty, Cardiopulmonary Sciences
RRT, B.S., M.S. (University of Central Florida)

CARLETON, CHARLES C., Clinical Faculty, Medical Laboratory Sciences
M.D. (McGill University)

CARR, EDWARD O., Clinical Faculty, Medical Laboratory Sciences
S.B.B., M.T., (ASCP), B.S. (Mississippi State)

CLARK, MERCEDES R., Clinical Faculty, Nursing Department
R.N., M.S.N.

COHEN, CINDY, Clinical Faculty, Cardiopulmonary Sciences
RRT, A.S. (Valencia Community College)

CONVERTINO, VICTOR A., Clinical Faculty, Cardiopulmonary Sciences
Ph.D. (University of California)

CURRY, RUPERT C., JR., Clinical Faculty, Cardiopulmonary Sciences
M.D. (University of Florida)

DENNISON, JOLENE, Clinical Faculty, Radiologic Sciences
RT, (ARRT)

DEW, DOUGLAS K., Clinical Faculty, Health Sciences
M.D. (University of Miami School of Medicine)

DRYDEN, TOM, Clinical Faculty, Medical Laboratory Sciences
B.S. (Florida Southern College)

FISHKIND, HENRY H., Lecturer of Economics B.A., Ph.D.
(Indiana University)

FITZPATRICK, JACK, Clinical Faculty, Cardiopulmonary Sciences
RRT, B.S. (University of Central Florida)
FOWLER, JULIE, Clinical Faculty, Radiologic Sciences
R. T. (ARRT)

FREY, MARY A., Clinical Faculty, Cardiopulmonary Sciences
Ph.D. (George Washington University)

GILES, JO ANN, Clinical Faculty, Medical Laboratory Sciences
B.S., MT (ASCP) (University of Florida)

GILLIARD, LAWRENCE M., Clinical Faculty, Cardiopulmonary Sciences
M.D. (University of Miami)

GRAHAM, ELEANOR, Clinical Faculty, Medical Laboratory Sciences
M.S. (Wayne State University)

GREGORY, RICHARD, Clinical Faculty, Cardiopulmonary Sciences
M.D. (Indiana University School of Medicine)

GRIECO, ALAN, Clinical Faculty, Health Sciences
Ph.D. (Memphis State University)

GRIFFIN, DARRELL R., Clinical Faculty, Cardiopulmonary Sciences
B.S. (Florida Technological University)

GUY, ALBERT G., Professor of Chemistry
D.Sc (Carnegie Institute of Technology)

HANSEN, THOMAS H., Clinical Faculty, Cardiopulmonary Sciences
B.S. (University of Florida)

HARTLEY, JOHN R., Clinical Faculty, Cardiopulmonary Sciences
B.A. (University of Florida)

HESS, JOHN C., Clinical Faculty, Cardiopulmonary Sciences
RRT, B.S. (University of Central Florida)

HINKLE, C. ROSS, Assistant Professor of Biological Sciences
Ph.D. (University of Tennessee)

HOLIMON, JAMES L., Clinical Faculty, Medical Laboratory Sciences
M.D. (Medical College of Virginia)

JACKSON, BARBARA, Clinical Faculty, Medical Record Administration
RRA, B.S. (Florida Technological University)

KALE, HERBERT W., II, Assistant Professor of Biological Sciences
Ph.D. (University of Georgia)

KANE, SUSAN, Clinical Faculty, Radiologic Sciences
RT (ARRT), B.S. (University of Central Florida)

KAPLAN, DAVID T., Faculty Associate, Biological Sciences
B.S., M.S., Ph.D. (University of California)

KEARNS, CAROL L., Clinical Faculty, Cardiopulmonary Sciences
CRTT

KERNZ, ROBERT S., Faculty Associate, Psychology
B.A., M.A., Ph.D. (University of Rochester)

KINCAID, J. PETER, Faculty Associate, Psychology
Ph.D. (Ohio State University)

KLOTZ, SOL D., Professor of Biological Sciences and
Clinical Faculty, Cardiopulmonary Sciences
B.S., M.S., M.D. (New York Medical College)

KNIGHT, WILLIAM M., Assistant Professor of Biological Sciences
Ph.D. (North Carolina State University)

LANGDON, JOHN, Associate Professor of Health Sciences
B.S., M.D. (Creighton University)

LIPMAN, BRIAN, Clinical Faculty, Cardiopulmonary Sciences
F.C.R. (College of Medicine of South Africa)

LIPSIT, LALA, Clinical Faculty, Medical Laboratory Sciences
S.S.B., M.T. (ASCP), B.A. (Florida State University)

LONGLEY ROSS E., Faculty Associate, Biological Sciences
B.S., M.S., Ph.D. (University of Oklahoma)

MARVIN, PAUL W., Clinical Faculty, Radiologic Sciences
B.S., M.S. (Bucknell University)

MAYER, RICHARD T., Professor of Chemistry
Ph.D. (University of Georgia)

McGEE, CARLA F., Clinical Faculty, Medical Laboratory Sciences
B.S. MT (ASCP) (Winona State University)
McCAUSLAND, ELIZABETH A., Clinical Faculty, Cardiopulmonary Sciences
B.S. (Florida Technological University)

MENGEN, MARVIN C., Clinical Faculty, Cardiopulmonary Sciences
M.D. (Johns Hopkins University)

MIXON, LONNIE M., Clinical Faculty, Cardiopulmonary Sciences
NMTCB, A.A. (South Florida Junior College)

MOSELEY, PATTERSON W., Clinical Faculty, Cardiopulmonary Sciences
M.D. (Louisiana State University)

NOCERO, MICHAEL A., JR., Clinical Faculty, Cardiopulmonary Sciences
M.D. (New York University College of Medicine)

NORMAN, BARBARA K., Clinical Faculty, Medical Laboratory Sciences
B.S. (North Georgia College)

OZKAPTAN, HALIM, Faculty Associate, Psychology
Ph.D. (Catholic University)

PENTELLA, MICHAEL A., Clinical Faculty, Medical Laboratory Sciences
B.S., M.S. (Thomas Jefferson University)

PETERS, CALVIN R., Clinical Faculty, Health Sciences
M.D. (Louisiana State University)

PELLOSIE, JOHN C., Clinical Faculty, Health Sciences
D.O. (Philadelphia College of Osteopathic Medicine & Surgery)

PINDER, A.R., Professor of Chemistry
B.Sc., Ph.D., D. Phil., D.Sc. (University of Sheffield)

PRITCHARD, PETER C. H., Assistant Professor of Biological Sciences
B.A., M.A., Ph.D. (University of Florida)

PYLES, VALORIE K., Clinical Faculty, Medical Laboratory Sciences
A.A., B.S. MT(ASCP) (University of South Florida)

REDDY, KONDRA R., Assistant Professor of Biological Sciences
Ph.D. (Louisiana State University)

REINKE, DEAN, Clinical Faculty, Health Sciences
M.S. (Indiana University)

ROBERTS, W.J., JR., Clinical Faculty, Medical Laboratory Sciences
A.A., B.S. MT(ASCP) (Florida International University)

ROGERS, ROBERT L., JR., Clinical Faculty, Cardiopulmonary Sciences
RRT, B.S. (University of Central Florida)

ROSENBERG, STEVEN, Clinical Faculty, Cardiopulmonary Sciences
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B.S., RRA (Loma Linda University)

SCHWARTZ, DANIEL L., Clinical Faculty, Cardiopulmonary Sciences
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SCOTT, MEREDITH LEE, Clinical Faculty, Cardiopulmonary Sciences
M.D. (University of Florida Medical School)

SINDLER, ROBERT B., Clinical Faculty, Cardiopulmonary Sciences
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SINGER, MICHAEL JAMES, Faculty Associate, Psychology
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SMITH, JUDITH, Clinical Faculty, Medical Record Administration
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STERLING, JO, Clinical Faculty, Medical Laboratory Sciences
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STRAYER, RICHARD F., Assistant Professor of Biological Sciences
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SWERDLOW, CATHY, Clinical Faculty, Medical Record Administration
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THOMPSON, CORLEY M., Associate Professor of Chemistry and Research Chemist
B.S., M.S., Ph.D. (Auburn University)

TOMASELLI, CLARE M., Clinical Faculty, Cardiopulmonary Sciences
Ph.D. (George Washington University)

VARRAUX, ALAN R., Clinical Faculty, Cardiopulmonary Sciences
B.S., M.D. (Temple University)

VONSTILLE, WALTER, Clinical Faculty of Health Sciences
B.S., M.S., Ph.D. (Columbia University)

292
WALSH, ANTHONY, *Clinical Faculty, Medical Laboratory Sciences*  
Ph.D., (University of Florida)

WEBB, JAMES M., *Clinical Faculty, Cardiopulmonary Sciences*  
RRT, B.S. (Loma Linda University)

WHISLER, MARILYN W., *Associate Professor in Political Science*  
B.A., M.A., Ph.D. (University of Wisconsin)

YOKOMI, RAYMOND K., *Faculty Associate, Biological Sciences*  
B.S., Ph.D. (University of California)
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